

Supplementary Information :

**Atmospheric health burden  
across the century  
and the accelerating impact  
of temperature compared to pollution.**

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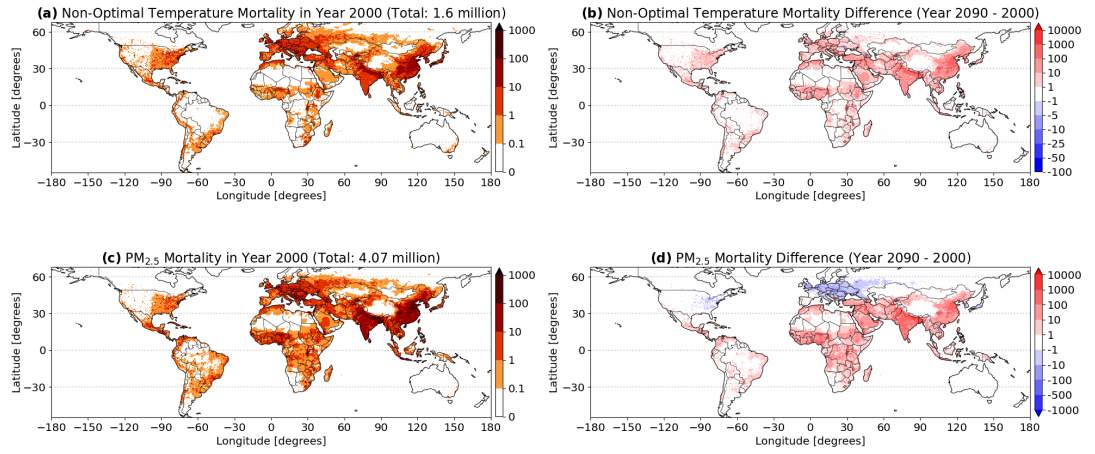
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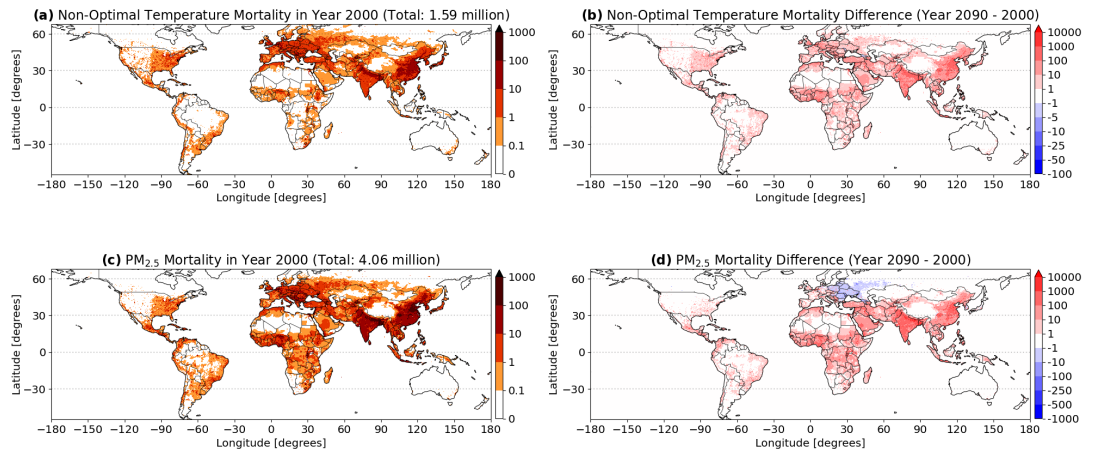
**This PDF file includes:**

**Supplementary Figures 1 to 9**

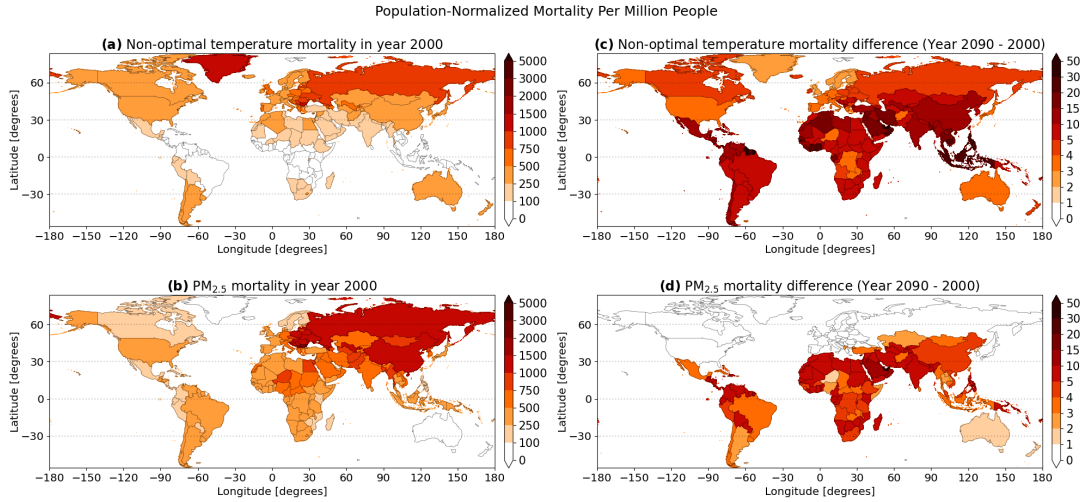
**Supplementary Tables 1 to 4**



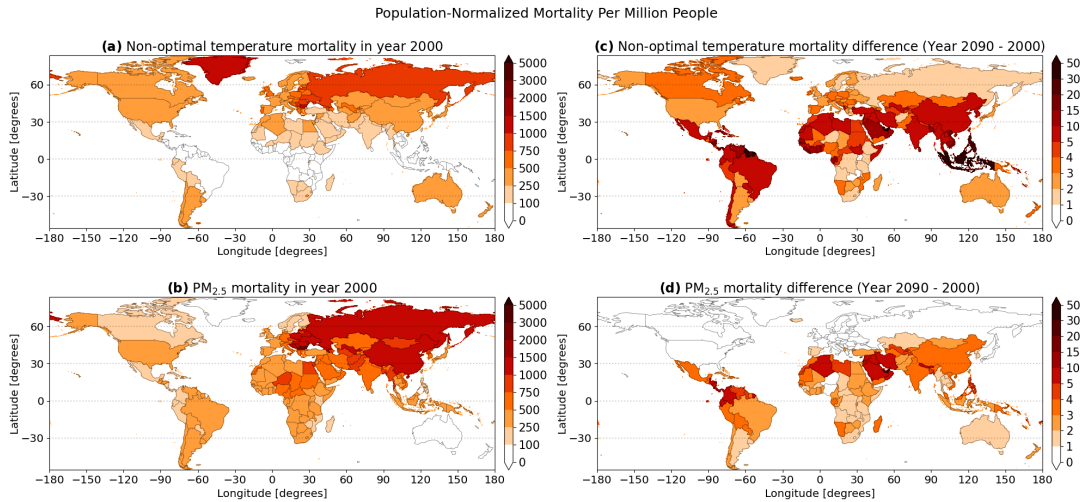
**Supplementary Figure 1** Annual mortality for the year 2000 attributable to long-term exposure to non-optimal temperature (a) and to air pollution (c). The differences for the same results by the end of the century in the Shared Socio-economic Pathways SSP1-2.6 scenario are also presented (b) and (d).



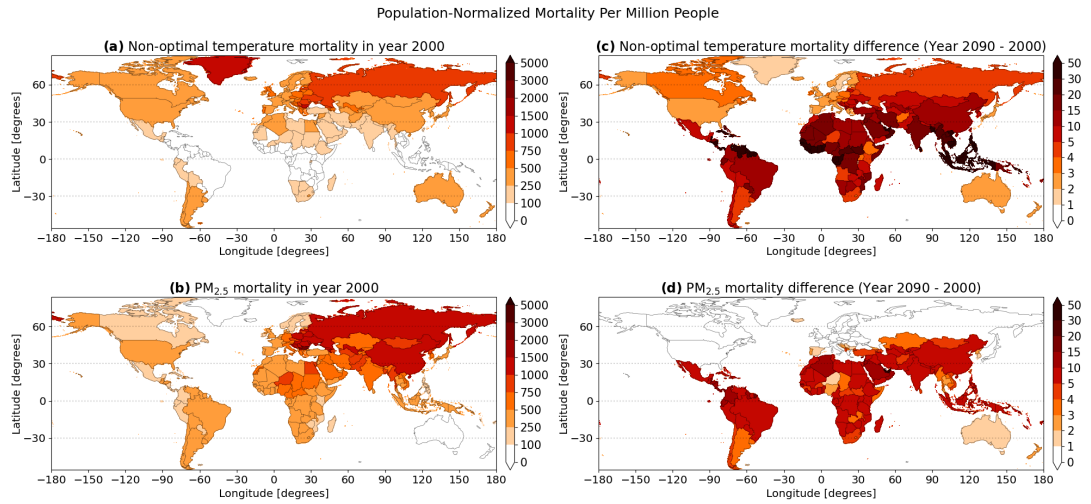
**Supplementary Figure 2** Annual mortality for the year 2000 attributable to long-term exposure to non-optimal temperature (a) and to air pollution (c). The differences for the same results by the end of the century in the Shared Socio-economic Pathways SSP5-8.5 scenario are also presented (b) and (d).



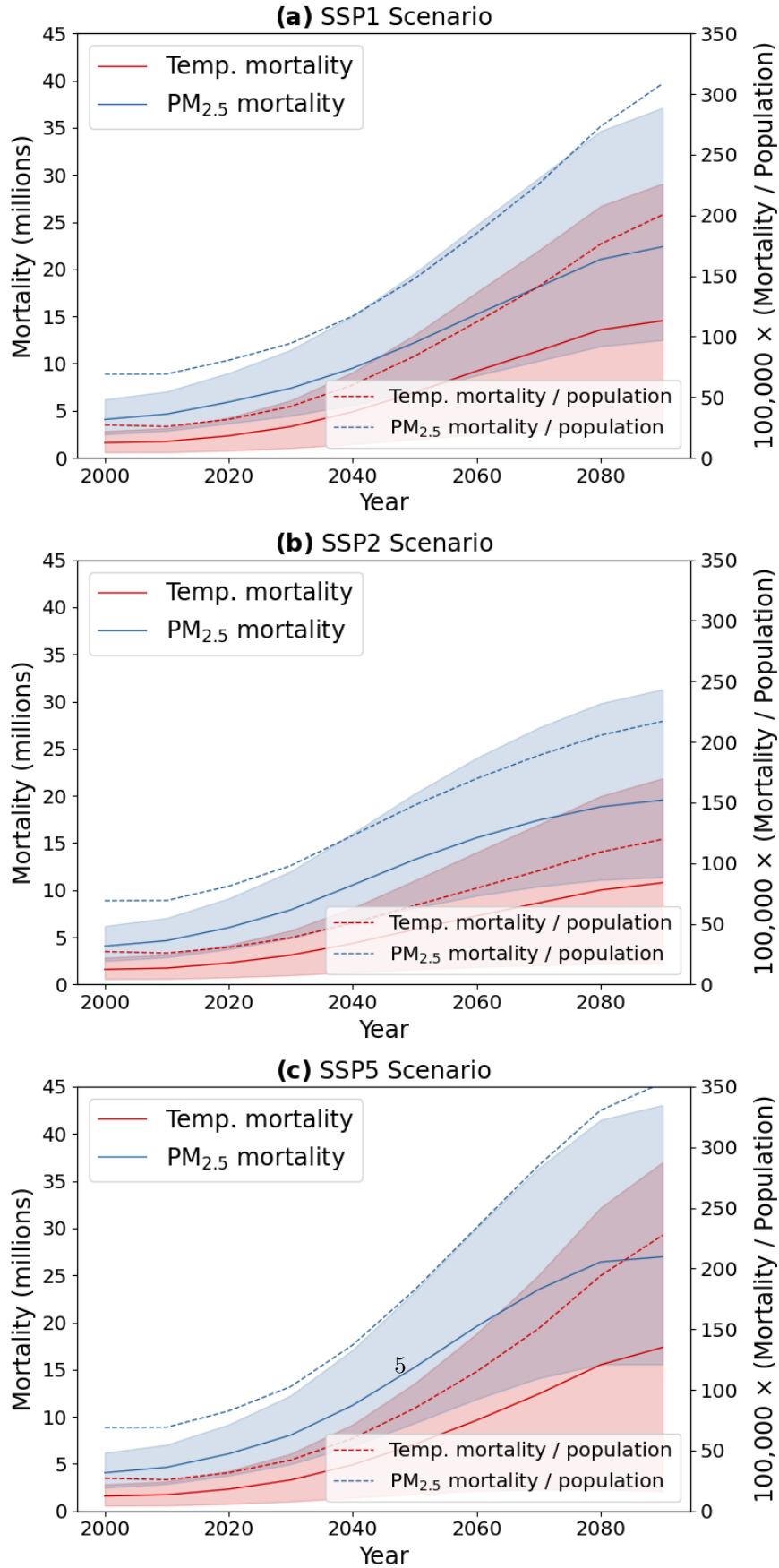
**Supplementary Figure 3** Country-level, population-normalized mortality per million people for the year 2000 attributable to long-term exposure to non-optimal temperature (a) and to air pollution (c). The differences for the same results by the end of the century in the Shared Socio-economic Pathways SSP1-2.6 scenario are also presented (b) and (d).



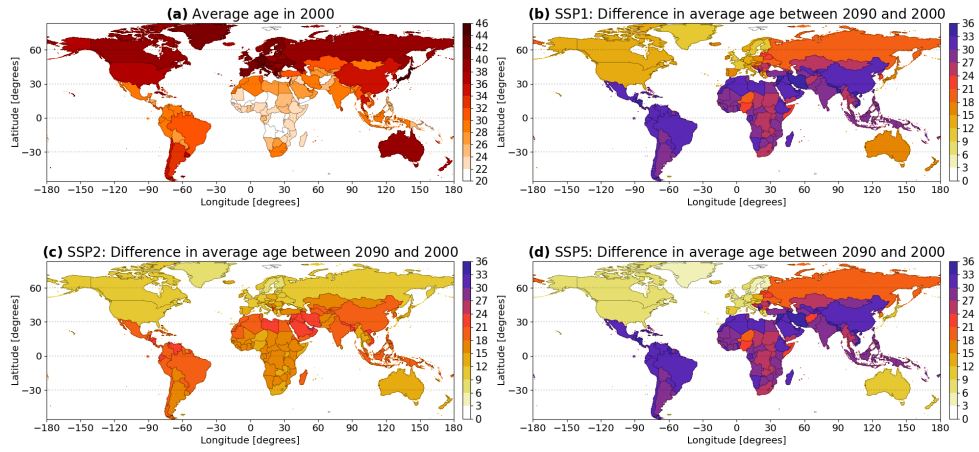
**Supplementary Figure 4** Country-level, population-normalized mortality per million people for the year 2000 attributable to long-term exposure to non-optimal temperature (a) and to air pollution (c). The differences for the same results by the end of the century in the Shared Socio-economic Pathways SSP2-4.5 scenario are also presented (b) and (d).



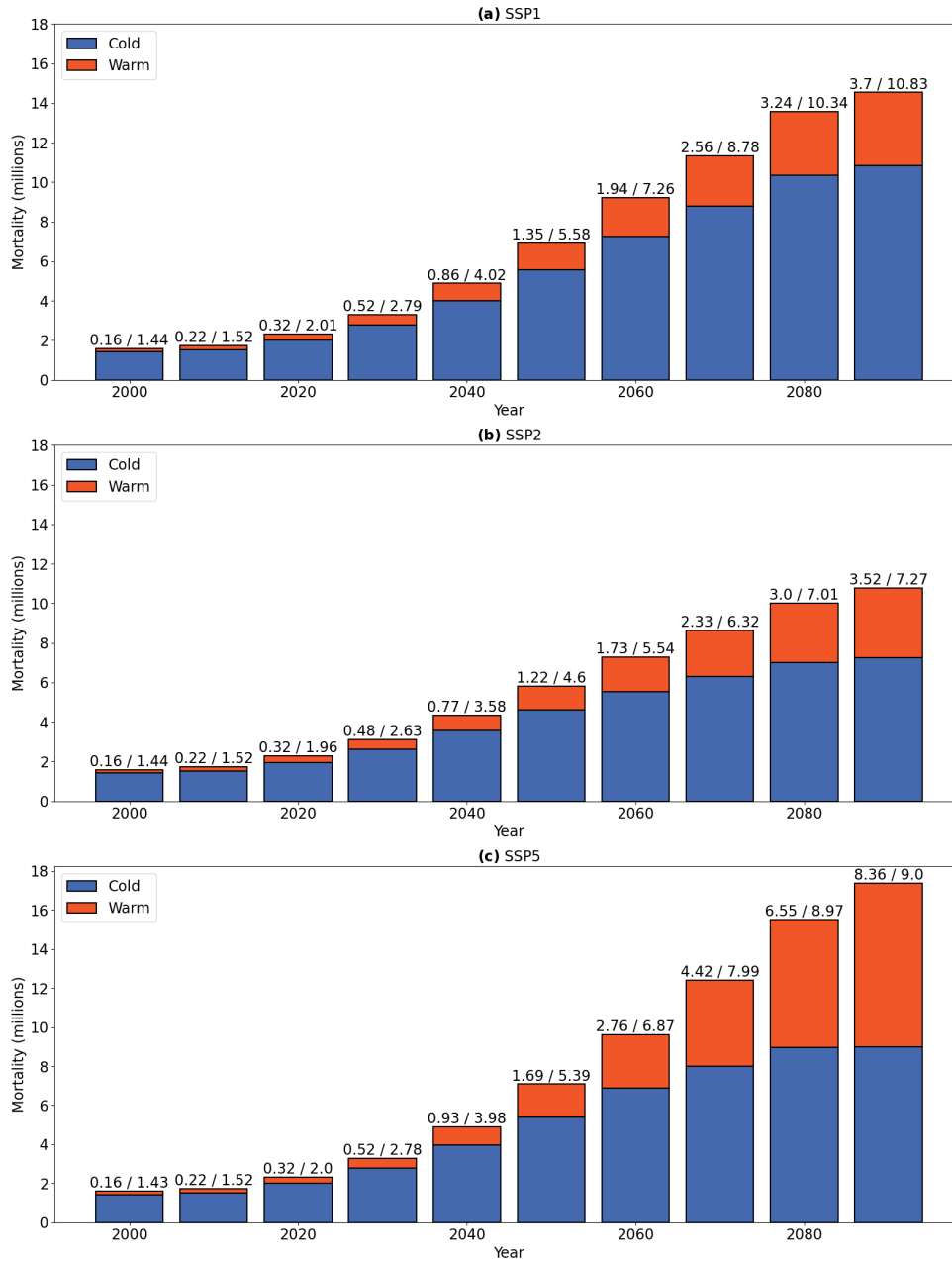
**Supplementary Figure 5** Country-level, population-normalized mortality per million people for the year 2000 attributable to long-term exposure to non-optimal temperature (a) and to air pollution (c). The differences for the same results by the end of the century in the Shared Socio-economic Pathways SSP5-8.5 scenario are also presented (b) and (d).



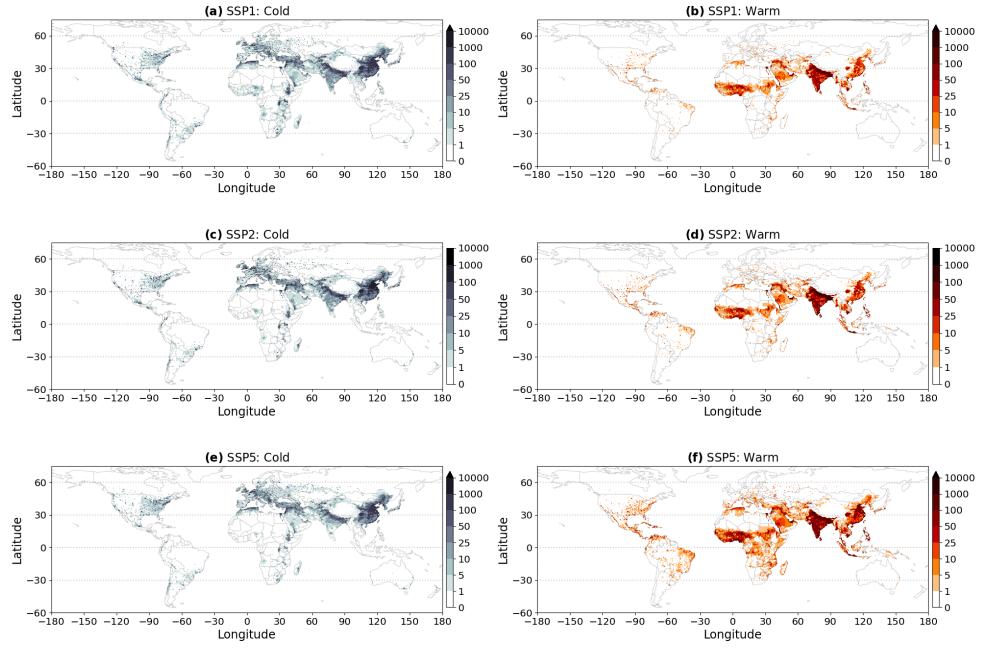
**Supplementary Figure 6** Projected mortality as a function of time for the Shared Socio-economic Pathways SSP1-2.6 (a), SSP2-4.5 (b) and the SSP5-8.5 scenario (c). The solid curves, corresponding to the left vertical axes, show the total global mortality (in millions) due to air pollution and non-optimal temperature, with shading indicating the 95% confidence interval. The dashed curves, corresponding to the right axes, show the population-normalized mortality per 100,000 people.



**Supplementary Figure 7** Average age by country in 2000 (a), and the difference in average age by 2090 for the Shared Socio-economic Pathways SSP1-2.6 (b), SSP2-4.5 (c) and SSP5-8.5 scenario (d).



**Supplementary Figure 8** Mortality due to exposure to warm and cold temperature for the Shared Socio-economic Pathways SSP1-2.6 (a), SSP2-4.5 (b) and the SSP5-8.5 (c) scenario. For each year, bars are labeled by the total warm / cold mortality in millions.



**Supplementary Figure 9** Change in mortality across the century (2090-2000) due to exposure to cold (left) and warm (right) temperatures for the Shared Socio-economic Pathways SSP1-2.6 scenario (a and b), SSP2-4.5 scenario (c and d) and the SSP5-8.5 scenario (e and f).



**Supplementary Table 1:** Year 2000 mortality by Global Burden of Disease country and region. For each country and region, the population is shown in millions, along with the attributable mortality to non-optimal temperature and to air pollution, with their respective 95% confidence intervals shown in parenthesis.

| Country or Region      | Pop.  | Non-optimal temperature    | air pollution              |
|------------------------|-------|----------------------------|----------------------------|
| Armenia                | 3.74  | 2,006 (871 - 3,237)        | 4,743 (2,971 - 6,988)      |
| Azerbaijan             | 7.01  | 3,800 (1,504 - 6,471)      | 6,579 (3,893 - 10,283)     |
| Georgia                | 5.23  | 3,955 (1,806 - 6,470)      | 6,998 (3,980 - 11,340)     |
| Kazakhstan             | 16.17 | 7,682 (2,633 - 13,293)     | 12,109 (6,782 - 20,089)    |
| Kyrgyzstan             | 5.33  | 1,915 (854 - 3,057)        | 3,300 (1,946 - 5,121)      |
| Mongolia               | 2.5   | 1,090 (204 - 2,200)        | 2,088 (1,168 - 3,566)      |
| Tajikistan             | 6.24  | 2,185 (984 - 3,643)        | 3,550 (2,046 - 5,678)      |
| Turkmenistan           | 4.79  | 2,175 (759 - 3,650)        | 4,453 (2,931 - 6,369)      |
| Uzbekistan             | 24.06 | 12,163 (4,711 - 20,017)    | 25,542 (16,716 - 36,709)   |
| Albania                | 3.03  | 1,015 (511 - 1,581)        | 1,490 (837 - 2,434)        |
| Bosnia and Herzegovina | 3.96  | 2,172 (1,050 - 3,620)      | 4,955 (2,904 - 7,872)      |
| Bulgaria               | 8.0   | 8,839 (4,125 - 14,143)     | 16,606 (10,263 - 24,874)   |
| Croatia                | 4.2   | 2,777 (1,307 - 4,394)      | 4,356 (2,496 - 6,969)      |
| Czech Republic         | 10.34 | 5,623 (3,192 - 8,334)      | 9,574 (5,481 - 15,277)     |
| Hungary                | 10.0  | 6,418 (3,006 - 10,206)     | 12,066 (7,103 - 18,800)    |
| Rep. of Macedonia      | 2.09  | 1,438 (724 - 2,256)        | 3,387 (2,237 - 4,841)      |
| Montenegro             | 0.65  | 329 (171 - 527)            | 604 (345 - 972)            |
| Poland                 | 38.45 | 19,917 (11,131 - 28,888)   | 40,388 (25,236 - 59,303)   |
| Romania                | 22.09 | 17,048 (8,150 - 26,518)    | 26,240 (15,337 - 41,230)   |
| Serbia                 | 9.77  | 7,415 (3,469 - 12,060)     | 14,921 (8,991 - 23,058)    |
| Slovakia               | 5.39  | 2,657 (1,308 - 4,186)      | 4,937 (2,852 - 7,809)      |
| Slovenia               | 2.29  | 1,118 (502 - 1,887)        | 1,442 (753 - 2,559)        |
| Belarus                | 10.02 | 6,770 (3,570 - 10,162)     | 11,050 (5,974 - 18,392)    |
| Estonia                | 1.3   | 880 (396 - 1,436)          | 582 (214 - 1,282)          |
| Latvia                 | 2.4   | 1,839 (982 - 2,778)        | 2,420 (1,318 - 4,049)      |
| Lithuania              | 3.66  | 2,133 (1,122 - 3,216)      | 3,120 (1,637 - 5,319)      |
| Rep. of Moldova        | 4.26  | 2,697 (1,215 - 4,245)      | 4,525 (2,547 - 7,270)      |
| Russian Federation     | 143.0 | 109,014 (45,547 - 171,081) | 146,334 (80,763 - 240,404) |
| Ukraine                | 49.04 | 40,897 (20,412 - 62,388)   | 72,103 (41,572 - 113,828)  |
| Australia              | 17.58 | 4,797 (2,513 - 7,228)      | 1,483 (250 - 4,322)        |
| New Zealand            | 3.56  | 1,214 (705 - 1,768)        | 341 (65 - 960)             |
| Brunei Darussalam      | 0.27  | 4 (0 - 23)                 | 33 (11 - 77)               |

|                          |        |                            |                           |
|--------------------------|--------|----------------------------|---------------------------|
| Japan                    | 120.46 | 57,448 (27,869 - 86,557)   | 35,841 (17,700 - 63,121)  |
| Singapore                | 3.64   | 61 (0 - 326)               | 825 (451 - 1,358)         |
| Republic of Korea        | 46.2   | 13,648 (4,934 - 23,561)    | 24,606 (14,352 - 38,210)  |
| Canada                   | 29.92  | 9,237 (3,569 - 15,247)     | 4,172 (1,259 - 9,943)     |
| United States of America | 277.12 | 101,810 (39,586 - 161,888) | 72,742 (31,441 - 140,180) |
| Argentina                | 36.66  | 11,450 (5,660 - 18,062)    | 11,525 (5,865 - 20,258)   |
| Chile                    | 14.3   | 4,046 (2,369 - 5,866)      | 4,430 (2,535 - 7,042)     |
| Uruguay                  | 3.19   | 1,167 (619 - 1,785)        | 1,041 (482 - 1,973)       |
| Andorra                  | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                 |
| Austria                  | 8.19   | 3,669 (1,713 - 5,862)      | 4,234 (2,194 - 7,343)     |
| Belgium                  | 10.35  | 4,764 (2,714 - 7,011)      | 4,846 (2,460 - 8,493)     |
| Cyprus                   | 0.6    | 244 (30 - 501)             | 307 (159 - 530)           |
| Denmark                  | 4.25   | 1,960 (1,138 - 2,842)      | 1,500 (657 - 2,903)       |
| Finland                  | 5.01   | 2,376 (1,022 - 3,870)      | 769 (169 - 2,069)         |
| France                   | 57.6   | 19,205 (10,173 - 29,249)   | 16,832 (8,171 - 30,613)   |
| Germany                  | 81.8   | 39,216 (20,880 - 60,046)   | 43,038 (21,325 - 76,927)  |
| Greece                   | 9.55   | 5,315 (2,563 - 8,301)      | 5,585 (3,089 - 9,157)     |
| Greenland                | 0.02   | 24 (12 - 38)               | 0 (0 - 0)                 |
| Iceland                  | 0.22   | 74 (38 - 114)              | 9 (0 - 37)                |
| Ireland                  | 3.75   | 1,526 (937 - 2,156)        | 759 (281 - 1,622)         |
| Israel                   | 6.4    | 1,209 (188 - 2,324)        | 2,061 (1,155 - 3,294)     |
| Italy                    | 53.69  | 26,548 (12,265 - 41,319)   | 32,207 (18,574 - 50,857)  |
| San Marino               | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                 |
| Luxembourg               | 0.38   | 132 (71 - 202)             | 142 (69 - 261)            |
| Malta                    | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                 |
| Netherlands              | 14.69  | 5,510 (3,125 - 8,109)      | 5,892 (2,944 - 10,386)    |
| Norway                   | 4.03   | 1,735 (892 - 2,588)        | 566 (157 - 1,389)         |
| Portugal                 | 9.29   | 5,355 (3,122 - 7,772)      | 3,334 (1,454 - 6,605)     |
| Spain                    | 36.23  | 15,649 (7,864 - 24,096)    | 10,530 (4,760 - 19,963)   |
| Sweden                   | 8.45   | 3,749 (1,853 - 5,858)      | 1,399 (398 - 3,476)       |
| Switzerland              | 7.23   | 2,650 (1,357 - 4,064)      | 2,490 (1,188 - 4,543)     |
| United Kingdom           | 57.67  | 29,710 (18,594 - 41,072)   | 22,218 (10,652 - 40,129)  |
| Bolivia                  | 8.32   | 1,636 (775 - 2,966)        | 3,054 (1,427 - 5,752)     |
| Ecuador                  | 12.18  | 1,301 (716 - 2,203)        | 2,325 (1,184 - 4,060)     |
| Peru                     | 22.24  | 3,075 (1,661 - 4,983)      | 4,851 (2,656 - 8,187)     |
| Antigua and Barbuda      | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                 |
| Bahamas                  | 0.01   | 0 (0 - 1)                  | 1 (0 - 2)                 |
| Barbados                 | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                 |
| Belize                   | 0.22   | 5 (0 - 17)                 | 40 (20 - 71)              |

|                              |        |                         |                          |
|------------------------------|--------|-------------------------|--------------------------|
| Bermuda                      | 0.0    | 0 (0 - 0)               | 0 (0 - 0)                |
| Cuba                         | 10.21  | 683 (0 - 1,760)         | 2,451 (1,044 - 4,856)    |
| Dominica                     | 0.0    | 0 (0 - 0)               | 0 (0 - 0)                |
| Dominican Republic           | 7.45   | 282 (51 - 713)          | 1,343 (576 - 2,738)      |
| Grenada                      | 0.0    | 0 (0 - 0)               | 0 (0 - 0)                |
| Guyana                       | 0.67   | 12 (0 - 80)             | 327 (171 - 564)          |
| Haiti                        | 7.46   | 261 (0 - 1,119)         | 2,240 (831 - 5,098)      |
| Jamaica                      | 1.86   | 55 (0 - 187)            | 559 (285 - 972)          |
| Puerto Rico                  | 3.67   | 205 (0 - 565)           | 428 (92 - 1,124)         |
| United States Virgin Islands | 0.0    | 0 (0 - 0)               | 0 (0 - 0)                |
| Saint Kitts and Nevis        | 0.0    | 0 (0 - 0)               | 0 (0 - 0)                |
| Saint Lucia                  | 0.0    | 0 (0 - 0)               | 0 (0 - 0)                |
| Saint Vincent and Grenadines | 0.0    | 0 (0 - 0)               | 0 (0 - 0)                |
| Suriname                     | 0.42   | 7 (0 - 39)              | 149 (78 - 258)           |
| Trinidad and Tobago          | 1.07   | 20 (0 - 120)            | 511 (270 - 860)          |
| Colombia                     | 41.19  | 3,742 (1,940 - 6,172)   | 9,272 (4,985 - 15,365)   |
| Costa Rica                   | 3.97   | 164 (45 - 344)          | 780 (414 - 1,307)        |
| El Salvador                  | 6.12   | 156 (6 - 477)           | 1,986 (1,162 - 3,110)    |
| Guatemala                    | 11.34  | 1,243 (563 - 2,244)     | 3,506 (1,986 - 5,682)    |
| Honduras                     | 6.37   | 294 (70 - 739)          | 1,984 (957 - 3,687)      |
| Mexico                       | 97.62  | 14,142 (6,553 - 22,261) | 24,338 (13,686 - 38,202) |
| Nicaragua                    | 4.94   | 117 (19 - 383)          | 1,034 (547 - 1,749)      |
| Panama                       | 2.78   | 34 (4 - 146)            | 450 (222 - 807)          |
| Venezuela                    | 22.07  | 889 (152 - 2,145)       | 6,632 (3,773 - 10,544)   |
| Brazil                       | 164.77 | 14,077 (4,402 - 27,304) | 42,360 (21,722 - 73,531) |
| Paraguay                     | 5.26   | 352 (30 - 777)          | 939 (454 - 1,746)        |
| Afghanistan                  | 22.11  | 9,210 (3,132 - 18,643)  | 16,809 (8,066 - 31,528)  |
| Algeria                      | 29.53  | 7,498 (2,491 - 14,744)  | 8,721 (3,835 - 17,789)   |
| Bahrain                      | 0.1    | 17 (0 - 38)             | 0 (0 - 0)                |
| Egypt                        | 65.19  | 16,568 (671 - 38,088)   | 55,491 (34,097 - 85,850) |
| Iran                         | 69.93  | 17,210 (5,005 - 29,996) | 38,221 (25,268 - 54,237) |
| Iraq                         | 22.87  | 5,568 (152 - 13,326)    | 13,416 (7,736 - 21,880)  |
| Jordan                       | 4.87   | 719 (158 - 1,454)       | 1,805 (1,004 - 2,956)    |
| Kuwait                       | 1.32   | 114 (13 - 228)          | 374 (265 - 506)          |
| Lebanon                      | 3.13   | 850 (342 - 1,528)       | 1,331 (697 - 2,279)      |
| Libya                        | 5.13   | 583 (28 - 1,410)        | 1,463 (763 - 2,680)      |
| Morocco                      | 28.12  | 7,309 (2,720 - 13,904)  | 12,246 (5,807 - 23,276)  |

|                                |          |                           |                               |
|--------------------------------|----------|---------------------------|-------------------------------|
| State of Pales-<br>tine        | 2.44     | 273 (48 - 572)            | 610 (315 - 1,072)             |
| Oman                           | 2.3      | 332 (22 - 747)            | 1,186 (719 - 1,844)           |
| Qatar                          | 0.33     | 31 (0 - 74)               | 111 (69 - 173)                |
| Saudi Arabia                   | 19.96    | 3,013 (133 - 6,911)       | 11,270 (7,106 - 16,807)       |
| Sudan                          | 24.89    | 4,404 (16 - 12,567)       | 15,762 (7,755 - 29,123)       |
| Syrian Arab<br>Republic        | 15.85    | 4,022 (928 - 7,785)       | 9,262 (5,498 - 14,611)        |
| Tunisia                        | 9.18     | 2,242 (437 - 4,712)       | 3,749 (1,784 - 7,062)         |
| United Arab<br>Emirates        | 2.55     | 189 (2 - 528)             | 723 (406 - 1,210)             |
| Turkey                         | 64.96    | 15,125 (5,891 - 27,948)   | 30,058 (15,980 - 51,531)      |
| Yemen                          | 17.86    | 2,441 (698 - 5,563)       | 8,842 (4,444 - 16,394)        |
| Bangladesh                     | 134.58   | 11,250 (50 - 30,293)      | 108,696 (67,578 - 165,524)    |
| Bhutan                         | 2.25     | 441 (168 - 874)           | 859 (397 - 1,666)             |
| India                          | 995.26   | 145,643 (3,312 - 342,220) | 727,792 (481,665 - 1,038,765) |
| Nepal                          | 23.08    | 4,181 (1,189 - 8,811)     | 13,566 (7,291 - 22,621)       |
| Pakistan                       | 143.45   | 33,856 (1,948 - 79,761)   | 113,389 (69,903 - 173,830)    |
| South Asia                     | 1,298.62 | 195,371 (6,667 - 461,959) | 964,302 (626,833 - 1,402,407) |
| Angola                         | 13.14    | 1,015 (225 - 2,585)       | 4,111 (1,738 - 8,724)         |
| Central African<br>Republic    | 3.48     | 141 (0 - 653)             | 2,295 (1,037 - 4,514)         |
| Congo                          | 3.11     | 89 (0 - 368)              | 1,433 (701 - 2,644)           |
| Dem. Rep. of<br>the Congo      | 51.13    | 1,937 (405 - 6,488)       | 21,322 (10,191 - 40,825)      |
| Equatorial<br>Guinea           | 0.32     | 7 (0 - 35)                | 122 (53 - 246)                |
| Gabon                          | 0.93     | 20 (0 - 105)              | 357 (165 - 678)               |
| Burundi                        | 6.49     | 648 (182 - 1,449)         | 2,884 (1,409 - 5,357)         |
| Comoros                        | 0.0      | 0 (0 - 0)                 | 0 (0 - 0)                     |
| Djibouti                       | 0.5      | 67 (0 - 213)              | 144 (68 - 273)                |
| Eritrea                        | 3.61     | 322 (42 - 971)            | 1,282 (576 - 2,515)           |
| Ethiopia                       | 63.03    | 10,742 (4,836 - 19,546)   | 19,608 (9,498 - 36,529)       |
| Kenya                          | 29.64    | 2,176 (906 - 4,145)       | 4,986 (2,444 - 9,158)         |
| Madagascar                     | 15.64    | 1,912 (659 - 3,879)       | 3,483 (1,454 - 7,301)         |
| Malawi                         | 11.03    | 733 (101 - 1,808)         | 2,962 (1,342 - 5,796)         |
| Mozambique                     | 18.13    | 877 (29 - 2,751)          | 4,238 (1,804 - 8,863)         |
| Rwanda                         | 7.45     | 1,179 (449 - 2,347)       | 3,621 (1,765 - 6,648)         |
| Somalia                        | 8.63     | 495 (2 - 2,095)           | 2,398 (894 - 5,509)           |
| South Sudan                    | 6.06     | 431 (0 - 1,537)           | 2,037 (867 - 4,183)           |
| United Republic<br>of Tanzania | 33.49    | 1,654 (242 - 4,440)       | 8,518 (3,886 - 16,567)        |
| Uganda                         | 23.12    | 835 (113 - 2,427)         | 6,188 (2,851 - 11,804)        |

|                             |          |                             |                                   |
|-----------------------------|----------|-----------------------------|-----------------------------------|
| Zambia                      | 10.42    | 820 (90 - 2,006)            | 3,385 (1,559 - 6,561)             |
| Botswana                    | 1.53     | 213 (11 - 583)              | 481 (187 - 1,069)                 |
| Lesotho                     | 2.01     | 702 (357 - 1,213)           | 904 (435 - 1,681)                 |
| Namibia                     | 1.71     | 192 (33 - 453)              | 464 (204 - 923)                   |
| South Africa                | 40.9     | 7,739 (3,859 - 12,380)      | 14,352 (8,475 - 22,616)           |
| Swaziland                   | 0.96     | 135 (38 - 295)              | 312 (130 - 643)                   |
| Zimbabwe                    | 12.57    | 1,197 (310 - 2,605)         | 2,622 (1,161 - 5,281)             |
| Benin                       | 5.29     | 307 (0 - 1,137)             | 2,329 (1,193 - 4,096)             |
| Burkina Faso                | 11.53    | 1,181 (0 - 3,644)           | 4,615 (2,292 - 8,279)             |
| Cameroon                    | 14.78    | 781 (44 - 2,581)            | 7,475 (3,960 - 12,939)            |
| Cape Verde                  | 0.0      | 0 (0 - 0)                   | 0 (0 - 0)                         |
| Chad                        | 7.9      | 974 (0 - 3,166)             | 4,031 (1,980 - 7,376)             |
| Cote d'Ivoire               | 15.64    | 424 (0 - 2,152)             | 5,482 (2,468 - 10,713)            |
| Gambia                      | 1.28     | 37 (0 - 146)                | 369 (184 - 660)                   |
| Ghana                       | 18.94    | 643 (0 - 2,540)             | 6,426 (3,324 - 11,282)            |
| Guinea                      | 8.08     | 289 (0 - 1,278)             | 3,462 (1,646 - 6,482)             |
| Guinea-Bissau               | 1.13     | 53 (0 - 229)                | 560 (279 - 1,018)                 |
| Liberia                     | 2.89     | 28 (0 - 239)                | 671 (285 - 1,396)                 |
| Mali                        | 11.31    | 1,093 (0 - 3,403)           | 3,995 (1,977 - 7,217)             |
| Mauritania                  | 2.52     | 276 (0 - 795)               | 921 (490 - 1,575)                 |
| Niger                       | 10.81    | 1,996 (0 - 6,308)           | 8,841 (4,636 - 15,555)            |
| Nigeria                     | 111.54   | 6,710 (2 - 24,263)          | 73,659 (40,597 - 125,342)         |
| Sao Tome and Principe       | 0.0      | 0 (0 - 0)                   | 0 (0 - 0)                         |
| Senegal                     | 6.49     | 270 (0 - 944)               | 2,116 (1,091 - 3,672)             |
| Sierra Leone                | 4.29     | 70 (0 - 485)                | 1,448 (611 - 2,927)               |
| Togo                        | 4.41     | 181 (0 - 698)               | 1,685 (857 - 3,017)               |
| China                       | 1,248.49 | 519,346 (213,257 - 843,738) | 1,492,873 (1,002,264 - 2,061,741) |
| Dem. People's Rep. of Korea | 21.37    | 10,263 (3,765 - 19,729)     | 19,306 (9,799 - 34,409)           |
| Taiwan                      | 18.27    | 2,378 (676 - 4,338)         | 5,866 (3,500 - 8,984)             |
| Cambodia                    | 13.08    | 744 (0 - 2,759)             | 4,702 (2,167 - 9,138)             |
| Indonesia                   | 189.1    | 3,035 (44 - 18,090)         | 80,390 (44,992 - 132,678)         |
| Lao People's Dem. Rep.      | 5.41     | 459 (32 - 1,335)            | 3,318 (1,637 - 6,177)             |
| Malaysia                    | 21.09    | 283 (3 - 1,589)             | 5,455 (2,769 - 9,697)             |
| Maldives                    | 0.0      | 0 (0 - 0)                   | 0 (0 - 0)                         |
| Mauritius                   | 0.69     | 72 (11 - 145)               | 275 (143 - 473)                   |
| Myanmar                     | 47.1     | 5,414 (351 - 16,705)        | 45,990 (24,350 - 80,035)          |
| Philippines                 | 64.79    | 1,113 (20 - 4,725)          | 14,349 (8,019 - 23,657)           |
| Seychelles                  | 0.0      | 0 (0 - 0)                   | 0 (0 - 0)                         |
| Sri Lanka                   | 14.8     | 717 (23 - 2,404)            | 7,212 (4,009 - 11,946)            |

|                                         |          |                             |                                   |
|-----------------------------------------|----------|-----------------------------|-----------------------------------|
| Thailand                                | 61.27    | 4,430 (8 - 12,551)          | 29,377 (15,743 - 49,876)          |
| Timor-Leste                             | 0.65     | 7 (0 - 49)                  | 95 (33 - 227)                     |
| Viet Nam                                | 75.88    | 6,449 (55 - 19,927)         | 40,331 (20,988 - 68,523)          |
| American Samoa                          | 0.0      | 0 (0 - 0)                   | 0 (0 - 0)                         |
| Micronesia                              | 0.0      | 0 (0 - 0)                   | 0 (0 - 0)                         |
| Fiji                                    | 0.55     | 43 (0 - 113)                | 83 (12 - 256)                     |
| Guam                                    | 0.0      | 0 (0 - 0)                   | 0 (0 - 0)                         |
| Kiribati                                | 0.0      | 0 (0 - 0)                   | 0 (0 - 0)                         |
| Nauru                                   | 0.0      | 0 (0 - 0)                   | 0 (0 - 0)                         |
| Niue                                    | 0.0      | 0 (0 - 0)                   | 0 (0 - 0)                         |
| Northern Mariana Islands                | 0.0      | 0 (0 - 0)                   | 0 (0 - 0)                         |
| Palau                                   | 0.0      | 0 (0 - 0)                   | 0 (0 - 0)                         |
| Marshall Islands                        | 0.0      | 0 (0 - 0)                   | 0 (0 - 0)                         |
| Papua New Guinea                        | 4.45     | 207 (31 - 698)              | 1,216 (436 - 2,873)               |
| Western Samoa                           | 0.0      | 0 (0 - 0)                   | 0 (0 - 0)                         |
| Solomon Islands                         | 0.11     | 2 (0 - 19)                  | 28 (8 - 77)                       |
| Tonga                                   | 0.0      | 0 (0 - 0)                   | 0 (0 - 0)                         |
| Tokelau                                 | 0.0      | 0 (0 - 0)                   | 0 (0 - 0)                         |
| Vanuatu                                 | 0.03     | 1 (0 - 4)                   | 4 (1 - 13)                        |
| Central-Eastern Europe and Central Asia | 409.02   | 277,967 (126,217 - 435,944) | 450,458 (261,295 - 712,682)       |
| High-Income                             | 932.28   | 375,502 (178,372 - 579,706) | 315,758 (154,267 - 568,041)       |
| Latin America and Caribbean             | 442.21   | 42,752 (16,986 - 77,745)    | 111,560 (58,542 - 190,270)        |
| North Africa and Middle East            | 412.62   | 97,718 (22,887 - 200,767)   | 231,451 (131,613 - 382,809)       |
| South Asia                              | 1,298.62 | 195,371 (6,667 - 461,959)   | 964,302 (626,833 - 1,402,407)     |
| Sub-Saharan Africa                      | 607.87   | 51,591 (12,934 - 131,386)   | 242,592 (122,767 - 440,452)       |
| Southeast-East Asia and Oceania         | 1,787.12 | 554,963 (218,276 - 948,919) | 1,750,872 (1,140,869 - 2,500,780) |
| Central Asia                            | 75.06    | 36,970 (14,326 - 62,038)    | 69,360 (42,434 - 106,142)         |
| Central Europe                          | 120.26   | 76,766 (38,647 - 118,599)   | 140,964 (84,835 - 215,997)        |
| Eastern Europe                          | 213.69   | 164,231 (73,244 - 255,307)  | 240,134 (134,026 - 390,543)       |
| Australasia                             | 21.14    | 6,011 (3,217 - 8,996)       | 1,824 (315 - 5,282)               |
| High-Income Asia Pacific                | 170.56   | 71,161 (32,802 - 110,467)   | 61,304 (32,513 - 102,766)         |

|                              |          |                                 |                                   |
|------------------------------|----------|---------------------------------|-----------------------------------|
| High-Income North America    | 307.04   | 111,047 (43,155 - 177,135)      | 76,914 (32,700 - 150,123)         |
| Southern Latin America       | 54.15    | 16,663 (8,648 - 25,712)         | 16,996 (8,882 - 29,272)           |
| Western Europe               | 379.39   | 170,620 (90,549 - 257,395)      | 158,719 (79,857 - 280,598)        |
| Andean Latin America         | 42.73    | 6,012 (3,152 - 10,152)          | 10,230 (5,266 - 17,999)           |
| Caribbean                    | 33.04    | 1,531 (51 - 4,602)              | 8,049 (3,368 - 16,542)            |
| Central Latin America        | 196.41   | 20,780 (9,352 - 34,910)         | 49,981 (27,732 - 80,453)          |
| Tropical Latin America       | 170.03   | 14,429 (4,432 - 28,080)         | 43,299 (22,176 - 75,277)          |
| North Africa and Middle East | 412.62   | 97,718 (22,887 - 200,767)       | 231,451 (131,613 - 382,809)       |
| Central Sub-Saharan Africa   | 72.11    | 3,209 (630 - 10,234)            | 29,640 (13,887 - 57,630)          |
| Eastern Sub-Saharan Africa   | 237.25   | 22,890 (7,651 - 49,614)         | 65,733 (30,418 - 127,065)         |
| Southern Sub-Saharan Africa  | 59.67    | 10,178 (4,607 - 17,530)         | 19,134 (10,592 - 32,213)          |
| Western Sub-Saharan Africa   | 238.83   | 15,314 (46 - 54,008)            | 128,085 (67,871 - 223,544)        |
| East Asia                    | 1,288.13 | 531,987 (217,698 - 867,805)     | 1,518,045 (1,015,562 - 2,105,135) |
| Southeast Asia               | 493.85   | 22,722 (547 - 80,280)           | 231,495 (124,850 - 392,427)       |
| Oceania                      | 5.13     | 254 (31 - 834)                  | 1,331 (457 - 3,218)               |
| WORLD                        | 5,871.45 | 1,593,486 (581,663 - 2,832,088) | 4,061,127 (2,492,687 - 6,188,457) |

**Supplementary Table 2:** Year 2090 mortality by Global Burden of Disease country and region for the Shared Socio-economic Pathways SSP1-2.6 scenario. For each country and region, the population is shown in millions, along with the attributable mortality to non-optimal temperature and to air pollution, with their respective 95% confidence intervals shown in parenthesis.

| Country or Region      | Pop.   | Non-optimal temperature     | air pollution               |
|------------------------|--------|-----------------------------|-----------------------------|
| Armenia                | 1.59   | 7,404 (2,928 - 12,214)      | 9,095 (5,012 - 14,662)      |
| Azerbaijan             | 6.44   | 29,722 (10,280 - 51,952)    | 29,028 (15,524 - 49,130)    |
| Georgia                | 1.91   | 8,320 (3,111 - 14,253)      | 6,058 (2,825 - 11,511)      |
| Kazakhstan             | 15.71  | 58,907 (19,186 - 102,006)   | 40,580 (20,246 - 76,003)    |
| Kyrgyzstan             | 4.67   | 16,277 (6,690 - 26,514)     | 19,928 (10,601 - 32,839)    |
| Mongolia               | 2.83   | 9,712 (2,187 - 19,372)      | 10,911 (5,529 - 20,299)     |
| Tajikistan             | 5.49   | 18,014 (6,279 - 32,879)     | 24,086 (13,420 - 39,801)    |
| Turkmenistan           | 4.59   | 19,110 (4,488 - 33,631)     | 30,533 (19,790 - 43,628)    |
| Uzbekistan             | 22.76  | 142,900 (50,141 - 237,494)  | 206,686 (129,871 - 305,034) |
| Albania                | 2.1    | 8,895 (3,726 - 14,646)      | 3,806 (1,460 - 8,229)       |
| Bosnia and Herzegovina | 2.11   | 8,692 (3,506 - 15,646)      | 4,871 (1,913 - 10,634)      |
| Bulgaria               | 4.51   | 27,939 (10,811 - 46,926)    | 11,876 (4,612 - 25,360)     |
| Croatia                | 2.72   | 11,645 (4,398 - 19,781)     | 2,642 (649 - 7,162)         |
| Czech Republic         | 11.61  | 29,791 (14,616 - 46,746)    | 1,953 (111 - 11,109)        |
| Hungary                | 7.91   | 23,265 (9,099 - 38,848)     | 2,928 (209 - 11,322)        |
| Rep. of Macedonia      | 1.81   | 12,165 (5,061 - 20,494)     | 8,852 (4,455 - 16,027)      |
| Montenegro             | 0.39   | 1,637 (765 - 2,728)         | 708 (265 - 1,579)           |
| Poland                 | 29.77  | 79,732 (37,789 - 123,224)   | 7,671 (964 - 33,612)        |
| Romania                | 10.41  | 55,389 (20,140 - 92,926)    | 8,803 (1,491 - 27,932)      |
| Serbia                 | 7.11   | 40,660 (15,753 - 70,005)    | 15,154 (5,348 - 35,053)     |
| Slovakia               | 4.94   | 14,219 (6,414 - 22,943)     | 1,339 (14 - 6,323)          |
| Slovenia               | 2.28   | 5,027 (1,935 - 8,988)       | 751 (117 - 2,549)           |
| Belarus                | 5.49   | 19,874 (9,606 - 30,523)     | 261 (0 - 6,152)             |
| Estonia                | 1.17   | 2,965 (1,487 - 4,595)       | 0 (0 - 62)                  |
| Latvia                 | 1.23   | 4,788 (2,627 - 7,065)       | 144 (0 - 1,327)             |
| Lithuania              | 1.73   | 5,687 (2,862 - 8,647)       | 22 (0 - 1,271)              |
| Rep. of Moldova        | 1.06   | 5,736 (2,048 - 9,504)       | 639 (24 - 2,642)            |
| Russian Federation     | 101.45 | 400,977 (173,552 - 621,688) | 36,888 (8,455 - 161,569)    |
| Ukraine                | 28.0   | 126,651 (49,923 - 205,323)  | 18,042 (2,013 - 66,813)     |
| Australia              | 39.97  | 50,719 (22,440 - 80,998)    | 7,084 (680 - 27,876)        |
| New Zealand            | 6.37   | 11,330 (6,307 - 16,796)     | 1,803 (320 - 5,586)         |



|                          |        |                               |                           |
|--------------------------|--------|-------------------------------|---------------------------|
| Brunei Darussalam        | 0.4    | 299 (0 - 1,118)               | 385 (67 - 1,140)          |
| Japan                    | 81.27  | 156,723 (65,803 - 247,483)    | 17,924 (3,927 - 53,928)   |
| Singapore                | 4.93   | 2,544 (0 - 8,096)             | 3,443 (1,340 - 7,207)     |
| Republic of Korea        | 35.44  | 111,837 (33,451 - 206,041)    | 36,581 (12,634 - 85,467)  |
| Canada                   | 54.77  | 85,225 (33,755 - 140,109)     | 34 (0 - 2,637)            |
| United States of America | 461.31 | 695,304 (222,000 - 1,164,598) | 61,711 (18,825 - 198,024) |
| Argentina                | 37.01  | 80,550 (33,473 - 135,302)     | 44,580 (19,752 - 86,115)  |
| Chile                    | 13.79  | 44,674 (25,295 - 65,104)      | 19,461 (9,090 - 35,937)   |
| Uruguay                  | 2.07   | 4,727 (2,086 - 7,733)         | 2,764 (1,169 - 5,558)     |
| Andorra                  | 0.0    | 0 (0 - 0)                     | 0 (0 - 0)                 |
| Austria                  | 8.87   | 20,995 (8,610 - 35,109)       | 1,121 (38 - 6,653)        |
| Belgium                  | 13.87  | 26,063 (13,638 - 39,722)      | 608 (0 - 6,108)           |
| Cyprus                   | 1.03   | 4,796 (86 - 10,488)           | 3,159 (1,439 - 6,028)     |
| Denmark                  | 6.17   | 10,575 (5,805 - 15,858)       | 2 (0 - 1,720)             |
| Finland                  | 6.88   | 11,841 (4,905 - 19,681)       | 0 (0 - 58)                |
| France                   | 82.03  | 110,546 (53,627 - 173,676)    | 12,052 (1,922 - 43,490)   |
| Germany                  | 72.94  | 157,780 (74,029 - 253,740)    | 1,884 (15 - 28,702)       |
| Greece                   | 9.41   | 24,035 (8,621 - 40,739)       | 8,341 (3,327 - 17,466)    |
| Greenland                | 0.02   | 62 (30 - 101)                 | 0 (0 - 0)                 |
| Iceland                  | 0.5    | 943 (465 - 1,474)             | 33 (0 - 235)              |
| Ireland                  | 7.26   | 17,560 (10,450 - 25,012)      | 529 (0 - 4,490)           |
| Israel                   | 20.24  | 16,392 (492 - 33,838)         | 15,111 (7,417 - 26,542)   |
| Italy                    | 50.94  | 105,935 (40,177 - 176,749)    | 33,111 (11,839 - 73,606)  |
| San Marino               | 0.0    | 0 (0 - 0)                     | 0 (0 - 0)                 |
| Luxembourg               | 0.81   | 1,569 (775 - 2,475)           | 35 (0 - 363)              |
| Malta                    | 0.0    | 0 (0 - 0)                     | 0 (0 - 0)                 |
| Netherlands              | 17.77  | 32,588 (17,413 - 49,071)      | 386 (0 - 7,057)           |
| Norway                   | 8.24   | 13,917 (6,854 - 21,222)       | 3 (0 - 1,651)             |
| Portugal                 | 10.03  | 26,705 (13,951 - 40,408)      | 6,600 (1,822 - 16,797)    |
| Spain                    | 45.42  | 92,979 (40,015 - 150,880)     | 20,833 (5,919 - 52,756)   |
| Sweden                   | 14.67  | 22,465 (11,168 - 35,228)      | 0 (0 - 735)               |
| Switzerland              | 9.35   | 16,600 (7,673 - 26,412)       | 1,399 (164 - 5,945)       |
| United Kingdom           | 84.2   | 168,182 (100,626 - 237,731)   | 2,772 (82 - 36,322)       |
| Bolivia                  | 10.38  | 15,599 (6,677 - 30,288)       | 24,199 (11,435 - 45,605)  |
| Ecuador                  | 15.04  | 22,811 (11,675 - 39,789)      | 22,192 (10,281 - 41,060)  |
| Peru                     | 18.59  | 25,332 (12,156 - 43,046)      | 23,577 (11,551 - 43,252)  |
| Antigua and Barbuda      | 0.0    | 0 (0 - 0)                     | 0 (0 - 0)                 |
| Bahamas                  | 0.01   | 4 (0 - 11)                    | 3 (1 - 7)                 |

|                              |        |                            |                             |
|------------------------------|--------|----------------------------|-----------------------------|
| Barbados                     | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Belize                       | 0.32   | 184 (0 - 520)              | 548 (259 - 1,001)           |
| Bermuda                      | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Cuba                         | 4.51   | 4,038 (0 - 9,732)          | 5,231 (1,944 - 11,243)      |
| Dominica                     | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Dominican Republic           | 8.35   | 2,534 (164 - 7,717)        | 10,078 (4,236 - 20,684)     |
| Grenada                      | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Guyana                       | 0.38   | 225 (0 - 847)              | 1,618 (865 - 2,723)         |
| Haiti                        | 9.29   | 3,918 (0 - 17,977)         | 20,517 (7,412 - 47,631)     |
| Jamaica                      | 1.25   | 259 (0 - 1,081)            | 2,540 (1,246 - 4,445)       |
| Puerto Rico                  | 1.55   | 505 (0 - 1,712)            | 1,068 (245 - 2,770)         |
| United States Virgin Islands | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Saint Kitts and Nevis        | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Saint Lucia                  | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Saint Vincent and Grenadines | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Suriname                     | 0.49   | 195 (0 - 656)              | 1,123 (580 - 1,935)         |
| Trinidad and Tobago          | 0.62   | 213 (0 - 902)              | 2,100 (1,085 - 3,547)       |
| Colombia                     | 48.42  | 50,797 (21,135 - 88,046)   | 86,481 (42,347 - 149,629)   |
| Costa Rica                   | 5.19   | 2,137 (463 - 5,430)        | 10,139 (5,039 - 17,372)     |
| El Salvador                  | 3.73   | 689 (2 - 2,626)            | 7,918 (4,194 - 12,997)      |
| Guatemala                    | 19.12  | 22,541 (7,774 - 43,445)    | 51,478 (28,785 - 83,840)    |
| Honduras                     | 8.84   | 5,322 (832 - 14,588)       | 27,846 (13,066 - 52,236)    |
| Mexico                       | 109.03 | 186,874 (75,518 - 304,436) | 123,747 (50,672 - 241,959)  |
| Nicaragua                    | 4.63   | 2,126 (96 - 6,660)         | 10,147 (5,102 - 17,735)     |
| Panama                       | 3.96   | 921 (21 - 3,464)           | 5,479 (2,508 - 10,124)      |
| Venezuela                    | 30.53  | 17,501 (2,520 - 42,310)    | 69,558 (36,864 - 114,075)   |
| Brazil                       | 155.97 | 129,709 (25,845 - 273,260) | 172,260 (65,484 - 357,657)  |
| Paraguay                     | 7.35   | 5,331 (120 - 12,799)       | 8,080 (3,307 - 16,730)      |
| Afghanistan                  | 67.36  | 127,507 (29,822 - 274,647) | 248,997 (123,777 - 437,546) |
| Algeria                      | 36.9   | 173,602 (42,264 - 349,360) | 103,949 (44,166 - 218,260)  |
| Bahrain                      | 0.54   | 2,405 (0 - 5,517)          | 0 (0 - 0)                   |
| Egypt                        | 100.21 | 263,387 (5,787 - 621,567)  | 532,161 (308,943 - 854,061) |
| Iran                         | 66.2   | 264,475 (64,249 - 480,512) | 351,940 (210,417 - 527,910) |
| Iraq                         | 62.24  | 196,342 (6,548 - 456,128)  | 348,853 (205,019 - 549,119) |
| Jordan                       | 12.54  | 31,299 (902 - 70,193)      | 48,452 (25,167 - 82,749)    |
| Kuwait                       | 3.3    | 6,917 (0 - 15,907)         | 12,263 (7,657 - 17,608)     |
| Lebanon                      | 3.24   | 9,981 (3,081 - 19,316)     | 7,893 (3,597 - 14,852)      |
| Libya                        | 7.69   | 13,079 (101 - 32,410)      | 17,448 (8,114 - 33,206)     |

|                          |          |                                |                                    |
|--------------------------|----------|--------------------------------|------------------------------------|
| Morocco                  | 24.1     | 66,101 (17,703 - 139,952)      | 67,387 (29,455 - 135,089)          |
| State of Palestine       | 3.54     | 8,061 (108 - 18,210)           | 9,558 (4,476 - 18,033)             |
| Oman                     | 3.38     | 11,434 (592 - 25,443)          | 22,424 (13,424 - 34,726)           |
| Qatar                    | 1.79     | 9,937 (0 - 23,564)             | 21,564 (13,159 - 33,072)           |
| Saudi Arabia             | 49.11    | 129,169 (1,429 - 302,113)      | 319,134 (197,507 - 473,730)        |
| Sudan                    | 54.48    | 89,096 (680 - 232,803)         | 214,182 (110,666 - 369,886)        |
| Syrian Arab Republic     | 27.16    | 122,301 (9,742 - 252,591)      | 154,041 (84,569 - 257,296)         |
| Tunisia                  | 9.09     | 28,562 (2,731 - 62,418)        | 24,238 (10,743 - 48,328)           |
| United Arab Emirates     | 13.62    | 78,776 (30 - 212,837)          | 147,156 (86,467 - 239,167)         |
| Turkey                   | 70.27    | 185,516 (60,233 - 360,542)     | 136,441 (58,923 - 272,852)         |
| Yemen                    | 49.81    | 57,869 (14,175 - 128,797)      | 174,720 (92,015 - 301,477)         |
| Bangladesh               | 136.93   | 236,696 (213 - 625,236)        | 984,876 (570,311 - 1,661,206)      |
| Bhutan                   | 0.99     | 1,848 (624 - 3,811)            | 2,943 (1,326 - 5,771)              |
| India                    | 1,258.81 | 2,216,421 (19,022 - 5,388,512) | 6,249,867 (3,861,299 - 9,395,782)  |
| Nepal                    | 39.33    | 69,720 (10,293 - 171,970)      | 211,255 (109,166 - 353,508)        |
| Pakistan                 | 230.15   | 411,226 (9,600 - 1,042,759)    | 1,225,157 (734,496 - 1,922,608)    |
| South Asia               | 1,666.21 | 2,935,911 (39,752 - 7,232,287) | 8,674,098 (5,276,599 - 13,338,876) |
| Angola                   | 42.89    | 18,983 (3,292 - 49,865)        | 79,383 (36,997 - 152,441)          |
| Central African Republic | 5.9      | 1,616 (0 - 8,340)              | 19,412 (9,011 - 37,249)            |
| Congo                    | 7.55     | 1,760 (0 - 9,217)              | 26,355 (13,051 - 48,059)           |
| Dem. Rep. of the Congo   | 147.44   | 27,783 (4,190 - 118,233)       | 340,568 (170,270 - 628,682)        |
| Equatorial Guinea        | 1.05     | 109 (0 - 744)                  | 2,485 (1,156 - 4,788)              |
| Gabon                    | 1.44     | 501 (0 - 2,415)                | 4,529 (2,122 - 8,460)              |
| Burundi                  | 16.48    | 10,857 (2,343 - 25,766)        | 46,659 (23,268 - 84,435)           |
| Comoros                  | 0.0      | 0 (0 - 0)                      | 0 (0 - 0)                          |
| Djibouti                 | 0.94     | 1,433 (0 - 4,248)              | 1,944 (970 - 3,498)                |
| Eritrea                  | 10.59    | 9,896 (758 - 31,724)           | 26,097 (11,803 - 50,344)           |
| Ethiopia                 | 144.13   | 154,042 (56,098 - 310,840)     | 246,219 (116,965 - 460,698)        |
| Kenya                    | 72.2     | 42,364 (14,829 - 86,904)       | 89,845 (44,041 - 163,750)          |
| Madagascar               | 38.01    | 36,413 (10,832 - 77,836)       | 58,210 (23,868 - 122,467)          |
| Malawi                   | 41.71    | 14,405 (1,239 - 38,281)        | 54,703 (26,057 - 102,326)          |
| Mozambique               | 38.37    | 14,476 (242 - 45,932)          | 54,435 (24,644 - 106,129)          |
| Rwanda                   | 21.82    | 17,754 (5,488 - 38,657)        | 54,560 (26,711 - 99,318)           |
| Somalia                  | 11.79    | 4,990 (7 - 16,551)             | 12,399 (4,961 - 27,425)            |

|                             |        |                                   |                                   |
|-----------------------------|--------|-----------------------------------|-----------------------------------|
| South Sudan                 | 12.64  | 9,422 (0 - 27,013)                | 20,994 (9,587 - 40,095)           |
| United Republic of Tanzania | 90.12  | 30,566 (3,362 - 87,109)           | 135,457 (64,236 - 253,245)        |
| Uganda                      | 97.12  | 17,631 (1,902 - 59,903)           | 153,187 (73,803 - 281,382)        |
| Zambia                      | 30.01  | 11,047 (498 - 29,426)             | 47,779 (23,599 - 87,020)          |
| Botswana                    | 2.3    | 2,620 (13 - 7,519)                | 4,875 (1,916 - 10,705)            |
| Lesotho                     | 2.14   | 4,461 (2,115 - 8,020)             | 4,274 (1,863 - 8,618)             |
| Namibia                     | 2.93   | 3,546 (295 - 9,402)               | 7,633 (3,442 - 15,010)            |
| South Africa                | 50.2   | 69,330 (28,128 - 116,295)         | 98,733 (54,073 - 162,186)         |
| Swaziland                   | 1.38   | 1,208 (263 - 2,800)               | 2,686 (1,106 - 5,634)             |
| Zimbabwe                    | 9.8    | 7,996 (1,312 - 18,964)            | 14,821 (6,416 - 30,404)           |
| Benin                       | 15.87  | 13,652 (0 - 36,976)               | 46,433 (25,588 - 77,092)          |
| Burkina Faso                | 37.53  | 40,661 (0 - 106,434)              | 81,730 (44,927 - 135,595)         |
| Cameroon                    | 29.89  | 14,044 (335 - 45,182)             | 99,474 (55,247 - 163,976)         |
| Cape Verde                  | 0.0    | 0 (0 - 0)                         | 0 (0 - 0)                         |
| Chad                        | 24.77  | 20,571 (0 - 59,214)               | 53,774 (28,697 - 92,859)          |
| Cote d'Ivoire               | 25.08  | 15,251 (0 - 48,624)               | 60,115 (29,027 - 111,077)         |
| Gambia                      | 2.85   | 2,187 (0 - 6,374)                 | 8,849 (4,869 - 14,693)            |
| Ghana                       | 40.13  | 34,400 (0 - 95,129)               | 118,813 (63,653 - 199,789)        |
| Guinea                      | 12.63  | 5,312 (0 - 18,774)                | 28,828 (14,700 - 50,854)          |
| Guinea-Bissau               | 2.05   | 1,453 (0 - 4,383)                 | 5,884 (3,131 - 10,119)            |
| Liberia                     | 10.8   | 2,143 (0 - 10,433)                | 20,010 (9,424 - 37,686)           |
| Mali                        | 33.97  | 33,769 (0 - 91,263)               | 82,329 (44,345 - 137,602)         |
| Mauritania                  | 5.06   | 7,093 (0 - 18,906)                | 14,884 (8,467 - 24,080)           |
| Niger                       | 51.41  | 39,275 (0 - 107,825)              | 99,153 (55,135 - 164,462)         |
| Nigeria                     | 418.23 | 187,301 (17 - 518,854)            | 901,964 (525,207 - 1,459,212)     |
| Sao Tome and Principe       | 0.0    | 0 (0 - 0)                         | 0 (0 - 0)                         |
| Senegal                     | 12.47  | 10,092 (6 - 26,837)               | 34,966 (19,770 - 56,767)          |
| Sierra Leone                | 10.33  | 3,532 (0 - 12,511)                | 20,122 (9,632 - 37,342)           |
| Togo                        | 9.34   | 8,452 (0 - 23,381)                | 29,085 (15,558 - 49,519)          |
| China                       | 761.53 | 4,453,514 (1,499,405 - 7,605,600) | 4,802,908 (2,643,095 - 7,695,420) |
| Dem. People's Rep. of Korea | 15.8   | 81,514 (25,074 - 166,470)         | 34,872 (12,200 - 85,147)          |
| Taiwan                      | 12.55  | 18,806 (2,602 - 39,251)           | 16,592 (7,245 - 32,006)           |
| Cambodia                    | 11.97  | 15,281 (0 - 40,284)               | 18,081 (7,183 - 39,859)           |
| Indonesia                   | 183.21 | 82,874 (195 - 274,005)            | 370,418 (175,288 - 703,670)       |
| Lao People's Dem. Rep.      | 6.06   | 6,315 (29 - 18,392)               | 14,608 (6,300 - 30,431)           |
| Malaysia                    | 34.94  | 13,083 (127 - 49,654)             | 51,186 (21,234 - 106,446)         |
| Maldives                    | 0.0    | 0 (0 - 0)                         | 0 (0 - 0)                         |
| Mauritius                   | 0.66   | 488 (0 - 1,138)                   | 1,464 (712 - 2,624)               |

|                                         |          |                                   |                                    |
|-----------------------------------------|----------|-----------------------------------|------------------------------------|
| Myanmar                                 | 29.43    | 38,085 (595 - 105,619)            | 124,680 (61,949 - 226,074)         |
| Philippines                             | 109.34   | 51,079 (120 - 159,641)            | 196,433 (104,457 - 329,680)        |
| Seychelles                              | 0.0      | 0 (0 - 0)                         | 0 (0 - 0)                          |
| Sri Lanka                               | 12.72    | 9,624 (151 - 27,256)              | 30,214 (14,243 - 56,294)           |
| Thailand                                | 48.05    | 56,701 (100 - 140,607)            | 71,715 (30,598 - 145,968)          |
| Timor-Leste                             | 1.36     | 64 (0 - 519)                      | 856 (308 - 2,017)                  |
| Viet Nam                                | 69.55    | 115,501 (888 - 310,135)           | 185,843 (75,026 - 381,999)         |
| American Samoa                          | 0.0      | 0 (0 - 0)                         | 0 (0 - 0)                          |
| Micronesia                              | 0.0      | 0 (0 - 0)                         | 0 (0 - 0)                          |
| Fiji                                    | 0.39     | 221 (0 - 675)                     | 417 (64 - 1,292)                   |
| Guam                                    | 0.0      | 0 (0 - 0)                         | 0 (0 - 0)                          |
| Kiribati                                | 0.0      | 0 (0 - 0)                         | 0 (0 - 0)                          |
| Nauru                                   | 0.0      | 0 (0 - 0)                         | 0 (0 - 0)                          |
| Niue                                    | 0.0      | 0 (0 - 0)                         | 0 (0 - 0)                          |
| Northern Mariana Islands                | 0.0      | 0 (0 - 0)                         | 0 (0 - 0)                          |
| Palau                                   | 0.0      | 0 (0 - 0)                         | 0 (0 - 0)                          |
| Marshall Islands                        | 0.0      | 0 (0 - 0)                         | 0 (0 - 0)                          |
| Papua New Guinea                        | 8.5      | 3,175 (387 - 11,278)              | 13,998 (4,829 - 33,570)            |
| Western Samoa                           | 0.0      | 0 (0 - 0)                         | 0 (0 - 0)                          |
| Solomon Islands                         | 0.17     | 29 (0 - 234)                      | 281 (89 - 717)                     |
| Tonga                                   | 0.0      | 0 (0 - 0)                         | 0 (0 - 0)                          |
| Tokelau                                 | 0.0      | 0 (0 - 0)                         | 0 (0 - 0)                          |
| Vanuatu                                 | 0.05     | 16 (0 - 69)                       | 66 (19 - 181)                      |
| Central-Eastern Europe and Central Asia | 293.8    | 1,196,101 (481,407 - 1,941,561)   | 504,258 (254,918 - 1,029,634)      |
| High-Income                             | 1,208.0  | 2,126,459 (864,023 - 3,462,991)   | 303,749 (101,788 - 846,197)        |
| Latin America and Caribbean             | 467.54   | 499,765 (164,997 - 951,340)       | 687,927 (308,508 - 1,300,259)      |
| North Africa and Middle East            | 666.56   | 1,875,814 (260,178 - 4,084,826)   | 2,962,800 (1,638,262 - 4,918,969)  |
| South Asia                              | 1,666.21 | 2,935,911 (39,752 - 7,232,287)    | 8,674,098 (5,276,599 - 13,338,876) |
| Sub-Saharan Africa                      | 1,643.37 | 954,397 (137,564 - 2,463,104)     | 3,314,653 (1,733,312 - 5,817,090)  |
| Southeast-East Asia and Oceania         | 1,306.28 | 4,946,369 (1,529,673 - 8,950,826) | 5,934,631 (3,164,837 - 9,873,397)  |
| Central Asia                            | 65.98    | 310,366 (105,288 - 530,315)       | 376,907 (222,818 - 592,908)        |

|                              |         |                                     |                                      |
|------------------------------|---------|-------------------------------------|--------------------------------------|
| Central Europe               | 87.68   | 319,058 (134,014 - 523,902)         | 71,354 (21,609 - 196,890)            |
| Eastern Europe               | 140.13  | 566,677 (242,105 - 887,344)         | 55,996 (10,492 - 239,836)            |
| Australasia                  | 46.34   | 62,049 (28,747 - 97,794)            | 8,888 (1,000 - 33,462)               |
| High-Income Asia Pacific     | 122.04  | 271,402 (99,254 - 462,739)          | 58,332 (17,968 - 147,742)            |
| High-Income North America    | 516.08  | 780,530 (255,754 - 1,304,707)       | 61,746 (18,825 - 200,661)            |
| Southern Latin America       | 52.87   | 129,951 (60,855 - 208,138)          | 66,805 (30,012 - 127,610)            |
| Western Europe               | 470.67  | 882,527 (419,412 - 1,389,613)       | 107,978 (33,984 - 336,723)           |
| Andean Latin America         | 44.01   | 63,742 (30,509 - 113,123)           | 69,968 (33,267 - 129,918)            |
| Caribbean                    | 26.75   | 12,075 (164 - 41,153)               | 44,826 (17,873 - 95,987)             |
| Central Latin America        | 233.46  | 288,908 (108,359 - 511,005)         | 392,793 (188,578 - 699,968)          |
| Tropical Latin America       | 163.32  | 135,040 (25,965 - 286,059)          | 180,340 (68,791 - 374,386)           |
| North Africa and Middle East | 666.56  | 1,875,814 (260,178 - 4,084,826)     | 2,962,800 (1,638,262 - 4,918,969)    |
| Central Sub-Saharan Africa   | 206.27  | 50,752 (7,481 - 188,814)            | 472,732 (232,607 - 879,678)          |
| Eastern Sub-Saharan Africa   | 625.93  | 375,296 (97,598 - 880,188)          | 1,002,486 (474,515 - 1,882,130)      |
| Southern Sub-Saharan Africa  | 68.76   | 89,160 (32,127 - 163,000)           | 133,022 (68,816 - 232,557)           |
| Western Sub-Saharan Africa   | 742.41  | 439,189 (358 - 1,231,101)           | 1,706,413 (957,374 - 2,822,724)      |
| East Asia                    | 789.88  | 4,553,834 (1,527,081 - 7,811,321)   | 4,854,372 (2,662,541 - 7,812,574)    |
| Southeast Asia               | 507.29  | 389,095 (2,205 - 1,127,250)         | 1,065,497 (497,296 - 2,025,063)      |
| Oceania                      | 9.1     | 3,440 (387 - 12,255)                | 14,762 (5,000 - 35,760)              |
| WORLD                        | 7,239.2 | 14,516,012 (3,474,991 - 29,047,685) | 22,365,524 (12,470,979 - 37,092,415) |

**Supplementary Table 3:** Year 2090 mortality by Global Burden of Disease country and region for the Shared Socio-economic Pathways SSP2-4.5 scenario. For each country and region, the population is shown in millions, along with the attributable mortality to non-optimal temperature and to air pollution, with their respective 95% confidence intervals shown in parenthesis.

| Country or Region      | Pop.   | Non-optimal temperature     | air pollution               |
|------------------------|--------|-----------------------------|-----------------------------|
| Armenia                | 1.93   | 5,423 (1,960 - 9,088)       | 7,485 (4,291 - 11,717)      |
| Azerbaijan             | 8.17   | 21,656 (6,611 - 38,378)     | 23,684 (12,925 - 39,473)    |
| Georgia                | 2.27   | 6,129 (2,177 - 10,588)      | 5,653 (2,814 - 10,205)      |
| Kazakhstan             | 19.46  | 45,039 (15,988 - 76,169)    | 38,095 (19,989 - 67,549)    |
| Kyrgyzstan             | 6.15   | 12,306 (5,484 - 19,489)     | 17,598 (9,903 - 27,877)     |
| Mongolia               | 3.71   | 6,540 (1,503 - 13,149)      | 10,115 (5,439 - 18,038)     |
| Tajikistan             | 7.5    | 13,485 (4,051 - 25,020)     | 22,249 (13,176 - 34,942)    |
| Turkmenistan           | 5.89   | 13,940 (2,203 - 25,296)     | 25,509 (17,039 - 35,797)    |
| Uzbekistan             | 29.02  | 104,440 (31,980 - 177,081)  | 177,319 (116,391 - 253,340) |
| Albania                | 2.46   | 6,524 (2,244 - 11,277)      | 3,671 (1,555 - 7,436)       |
| Bosnia and Herzegovina | 2.41   | 6,599 (2,592 - 11,878)      | 5,177 (2,312 - 10,271)      |
| Bulgaria               | 5.38   | 20,406 (7,942 - 34,138)     | 11,585 (5,095 - 22,858)     |
| Croatia                | 3.23   | 9,093 (3,466 - 15,373)      | 3,451 (1,239 - 7,775)       |
| Czech Republic         | 11.15  | 24,019 (11,251 - 38,153)    | 6,665 (1,468 - 17,956)      |
| Hungary                | 7.34   | 16,571 (5,877 - 28,213)     | 5,132 (1,338 - 13,003)      |
| Rep. of Macedonia      | 2.15   | 8,848 (3,485 - 15,025)      | 8,105 (4,351 - 13,848)      |
| Montenegro             | 0.48   | 1,261 (547 - 2,152)         | 778 (332 - 1,588)           |
| Poland                 | 27.71  | 61,000 (28,326 - 94,657)    | 18,429 (5,044 - 45,833)     |
| Romania                | 12.04  | 40,569 (14,992 - 67,585)    | 11,161 (3,018 - 28,139)     |
| Serbia                 | 8.35   | 29,595 (11,228 - 50,986)    | 16,474 (7,025 - 33,878)     |
| Slovakia               | 4.66   | 10,826 (4,730 - 17,583)     | 3,228 (784 - 8,386)         |
| Slovenia               | 2.23   | 4,094 (1,511 - 7,404)       | 1,144 (340 - 2,993)         |
| Belarus                | 6.53   | 14,395 (6,547 - 22,544)     | 1,885 (35 - 8,346)          |
| Estonia                | 1.1    | 2,156 (1,124 - 3,288)       | 5 (0 - 349)                 |
| Latvia                 | 1.43   | 3,209 (1,662 - 4,859)       | 455 (38 - 1,707)            |
| Lithuania              | 2.06   | 4,039 (1,923 - 6,259)       | 298 (4 - 1,853)             |
| Rep. of Moldova        | 1.25   | 3,850 (1,125 - 6,588)       | 867 (116 - 2,555)           |
| Russian Federation     | 126.04 | 287,187 (126,348 - 442,572) | 56,038 (12,843 - 176,299)   |
| Ukraine                | 34.15  | 89,106 (32,860 - 146,039)   | 25,516 (5,660 - 68,164)     |
| Australia              | 40.3   | 42,427 (16,896 - 69,969)    | 7,609 (845 - 27,527)        |
| New Zealand            | 6.29   | 9,290 (5,128 - 13,826)      | 1,885 (361 - 5,385)         |

|                          |        |                             |                           |
|--------------------------|--------|-----------------------------|---------------------------|
| Brunei Darussalam        | 0.57   | 571 (13 - 1,429)            | 497 (122 - 1,315)         |
| Japan                    | 77.85  | 133,648 (47,304 - 220,447)  | 25,559 (7,109 - 63,203)   |
| Singapore                | 5.8    | 3,961 (0 - 9,331)           | 3,938 (1,728 - 7,617)     |
| Republic of Korea        | 32.66  | 89,879 (28,916 - 162,501)   | 42,069 (16,646 - 88,304)  |
| Canada                   | 53.74  | 75,433 (29,929 - 123,744)   | 155 (7 - 7,734)           |
| United States of America | 447.31 | 546,955 (162,910 - 925,547) | 74,235 (23,820 - 223,810) |
| Argentina                | 47.4   | 56,042 (19,043 - 99,127)    | 37,817 (17,134 - 72,253)  |
| Chile                    | 17.1   | 36,026 (20,433 - 52,507)    | 19,457 (9,585 - 34,526)   |
| Uruguay                  | 2.62   | 3,288 (1,206 - 5,675)       | 2,391 (1,030 - 4,754)     |
| Andorra                  | 0.0    | 0 (0 - 0)                   | 0 (0 - 0)                 |
| Austria                  | 8.61   | 17,870 (6,775 - 30,462)     | 3,604 (659 - 10,348)      |
| Belgium                  | 13.32  | 22,575 (11,591 - 34,632)    | 3,593 (438 - 11,032)      |
| Cyprus                   | 1.26   | 3,991 (12 - 8,778)          | 2,615 (1,186 - 5,013)     |
| Denmark                  | 5.88   | 8,089 (4,290 - 12,290)      | 551 (0 - 3,211)           |
| Finland                  | 6.63   | 10,370 (4,877 - 16,536)     | 23 (0 - 1,357)            |
| France                   | 81.12  | 98,349 (46,151 - 156,266)   | 22,416 (5,694 - 57,842)   |
| Germany                  | 70.2   | 138,039 (62,660 - 223,943)  | 17,214 (622 - 65,196)     |
| Greece                   | 9.05   | 20,031 (5,131 - 35,842)     | 8,278 (3,505 - 16,668)    |
| Greenland                | 0.02   | 51 (26 - 82)                | 0 (0 - 0)                 |
| Iceland                  | 0.49   | 773 (377 - 1,217)           | 44 (0 - 238)              |
| Ireland                  | 6.97   | 14,066 (8,285 - 20,148)     | 1,399 (5 - 5,375)         |
| Israel                   | 21.34  | 14,482 (77 - 30,504)        | 14,107 (7,074 - 24,417)   |
| Italy                    | 50.71  | 92,769 (31,812 - 158,087)   | 40,350 (16,843 - 81,050)  |
| San Marino               | 0.0    | 0 (0 - 0)                   | 0 (0 - 0)                 |
| Luxembourg               | 0.8    | 1,365 (656 - 2,172)         | 189 (6 - 673)             |
| Malta                    | 0.0    | 0 (0 - 0)                   | 0 (0 - 0)                 |
| Netherlands              | 17.33  | 28,031 (14,846 - 42,338)    | 3,825 (167 - 13,007)      |
| Norway                   | 8.0    | 11,894 (6,216 - 17,734)     | 288 (0 - 2,914)           |
| Portugal                 | 9.86   | 19,957 (9,297 - 31,522)     | 8,498 (3,200 - 18,384)    |
| Spain                    | 45.14  | 80,637 (29,039 - 136,861)   | 28,318 (10,227 - 61,516)  |
| Sweden                   | 14.32  | 18,991 (9,563 - 29,633)     | 103 (0 - 3,611)           |
| Switzerland              | 9.34   | 15,344 (6,954 - 24,541)     | 2,968 (531 - 8,566)       |
| United Kingdom           | 82.4   | 137,296 (81,520 - 194,798)  | 16,268 (1,379 - 55,325)   |
| Bolivia                  | 14.64  | 11,101 (4,341 - 22,147)     | 22,440 (11,171 - 40,367)  |
| Ecuador                  | 19.43  | 17,009 (8,067 - 30,103)     | 23,213 (11,820 - 39,751)  |
| Peru                     | 23.72  | 16,737 (7,655 - 29,081)     | 23,985 (12,851 - 40,931)  |
| Antigua and Barbuda      | 0.0    | 0 (0 - 0)                   | 0 (0 - 0)                 |
| Bahamas                  | 0.01   | 4 (0 - 11)                  | 3 (1 - 7)                 |



|                              |        |                            |                             |
|------------------------------|--------|----------------------------|-----------------------------|
| Barbados                     | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Belize                       | 0.44   | 217 (0 - 540)              | 510 (253 - 901)             |
| Bermuda                      | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Cuba                         | 5.18   | 4,710 (47 - 10,449)        | 4,767 (1,862 - 9,950)       |
| Dominica                     | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Dominican Republic           | 11.08  | 2,493 (94 - 7,273)         | 9,010 (3,887 - 18,171)      |
| Grenada                      | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Guyana                       | 0.5    | 324 (2 - 826)              | 1,381 (763 - 2,266)         |
| Haiti                        | 10.8   | 3,243 (2 - 11,848)         | 12,897 (4,839 - 28,863)     |
| Jamaica                      | 1.68   | 255 (0 - 970)              | 2,156 (1,087 - 3,718)       |
| Puerto Rico                  | 1.89   | 505 (0 - 1,715)            | 1,024 (263 - 2,552)         |
| United States Virgin Islands | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Saint Kitts and Nevis        | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Saint Lucia                  | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Saint Vincent and Grenadines | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Suriname                     | 0.65   | 282 (5 - 667)              | 1,029 (554 - 1,717)         |
| Trinidad and Tobago          | 0.72   | 313 (2 - 946)              | 1,792 (960 - 2,937)         |
| Colombia                     | 61.96  | 41,008 (15,769 - 71,772)   | 83,717 (43,924 - 137,628)   |
| Costa Rica                   | 6.68   | 1,511 (278 - 4,362)        | 9,248 (4,797 - 15,365)      |
| El Salvador                  | 4.95   | 773 (19 - 2,649)           | 7,222 (4,018 - 11,498)      |
| Guatemala                    | 28.54  | 13,983 (3,485 - 29,189)    | 43,378 (25,065 - 68,974)    |
| Honduras                     | 12.18  | 3,724 (256 - 11,017)       | 24,145 (11,704 - 44,325)    |
| Mexico                       | 144.52 | 139,563 (48,907 - 236,139) | 164,368 (82,667 - 277,094)  |
| Nicaragua                    | 6.29   | 2,558 (51 - 6,433)         | 9,025 (4,742 - 15,211)      |
| Panama                       | 5.11   | 1,179 (12 - 3,403)         | 5,169 (2,511 - 9,131)       |
| Venezuela                    | 39.12  | 18,586 (1,748 - 42,765)    | 65,244 (36,305 - 103,538)   |
| Brazil                       | 193.0  | 107,620 (13,816 - 230,504) | 188,090 (82,858 - 356,595)  |
| Paraguay                     | 9.78   | 3,940 (2 - 9,863)          | 7,874 (3,520 - 15,342)      |
| Afghanistan                  | 109.0  | 109,554 (22,447 - 242,427) | 253,891 (129,978 - 441,472) |
| Algeria                      | 45.96  | 113,782 (16,321 - 242,697) | 87,428 (38,558 - 177,899)   |
| Bahrain                      | 0.71   | 1,882 (0 - 4,296)          | 0 (0 - 0)                   |
| Egypt                        | 129.11 | 194,206 (2,250 - 459,726)  | 421,748 (245,924 - 675,204) |
| Iran                         | 79.02  | 208,555 (47,089 - 379,089) | 308,721 (191,730 - 450,666) |
| Iraq                         | 86.8   | 127,612 (8,691 - 294,326)  | 307,593 (182,669 - 483,617) |
| Jordan                       | 16.05  | 24,488 (13 - 55,548)       | 40,420 (21,423 - 68,171)    |
| Kuwait                       | 4.28   | 5,415 (0 - 12,386)         | 10,518 (6,844 - 14,789)     |
| Lebanon                      | 3.9    | 6,644 (1,650 - 13,340)     | 6,238 (2,931 - 11,489)      |
| Libya                        | 9.79   | 10,203 (41 - 25,656)       | 15,273 (7,254 - 28,885)     |

|                          |          |                                |                                    |
|--------------------------|----------|--------------------------------|------------------------------------|
| Morocco                  | 30.89    | 43,374 (7,731 - 95,858)        | 64,358 (30,316 - 121,530)          |
| State of Palestine       | 4.79     | 6,102 (0 - 13,896)             | 8,116 (3,894 - 15,033)             |
| Oman                     | 5.09     | 10,986 (302 - 24,701)          | 22,821 (13,968 - 34,848)           |
| Qatar                    | 2.27     | 8,256 (0 - 19,488)             | 18,868 (11,675 - 28,780)           |
| Saudi Arabia             | 62.75    | 105,974 (648 - 249,401)        | 270,076 (170,258 - 397,060)        |
| Sudan                    | 74.98    | 70,998 (417 - 186,289)         | 173,471 (89,702 - 301,337)         |
| Syrian Arab Republic     | 35.99    | 94,286 (3,143 - 197,866)       | 131,005 (73,140 - 216,362)         |
| Tunisia                  | 10.8     | 19,575 (1,022 - 43,532)        | 19,328 (8,741 - 37,913)            |
| United Arab Emirates     | 17.01    | 64,936 (0 - 174,920)           | 127,896 (76,262 - 205,706)         |
| Turkey                   | 90.31    | 127,216 (38,638 - 248,862)     | 125,963 (58,071 - 239,245)         |
| Yemen                    | 74.09    | 41,437 (7,576 - 97,373)        | 159,955 (85,889 - 273,318)         |
| Bangladesh               | 173.66   | 187,702 (195 - 481,042)        | 828,973 (502,580 - 1,333,447)      |
| Bhutan                   | 1.39     | 1,451 (487 - 3,101)            | 3,453 (1,711 - 6,267)              |
| India                    | 1,666.36 | 1,791,020 (14,355 - 4,296,730) | 5,924,875 (3,887,553 - 8,485,542)  |
| Nepal                    | 52.72    | 52,098 (7,415 - 129,471)       | 198,050 (108,389 - 319,646)        |
| Pakistan                 | 327.68   | 325,661 (6,221 - 830,132)      | 1,035,562 (637,700 - 1,591,996)    |
| South Asia               | 2,221.8  | 2,357,932 (28,673 - 5,740,477) | 7,990,913 (5,137,933 - 11,736,899) |
| Angola                   | 56.6     | 10,008 (849 - 29,396)          | 48,854 (21,950 - 96,780)           |
| Central African Republic | 7.63     | 1,605 (0 - 6,735)              | 13,810 (6,529 - 26,008)            |
| Congo                    | 9.4      | 1,420 (0 - 6,164)              | 15,972 (7,948 - 28,927)            |
| Dem. Rep. of the Congo   | 186.67   | 18,541 (1,431 - 80,073)        | 227,050 (114,391 - 416,510)        |
| Equatorial Guinea        | 1.32     | 75 (0 - 505)                   | 1,603 (751 - 3,060)                |
| Gabon                    | 1.72     | 423 (0 - 1,558)                | 2,739 (1,307 - 5,064)              |
| Burundi                  | 20.12    | 4,530 (613 - 12,176)           | 30,705 (15,454 - 55,386)           |
| Comoros                  | 0.0      | 0 (0 - 0)                      | 0 (0 - 0)                          |
| Djibouti                 | 1.13     | 707 (0 - 2,054)                | 1,152 (584 - 2,064)                |
| Eritrea                  | 14.19    | 6,409 (220 - 20,532)           | 19,809 (9,321 - 37,153)            |
| Ethiopia                 | 191.16   | 75,883 (23,316 - 159,230)      | 181,927 (90,063 - 330,310)         |
| Kenya                    | 92.49    | 20,220 (5,949 - 43,830)        | 61,760 (31,541 - 108,666)          |
| Madagascar               | 57.52    | 23,971 (5,594 - 55,921)        | 52,803 (22,061 - 109,775)          |
| Malawi                   | 61.81    | 8,469 (73 - 25,563)            | 34,757 (15,854 - 67,707)           |
| Mozambique               | 50.38    | 10,241 (14 - 32,184)           | 31,586 (13,832 - 63,796)           |
| Rwanda                   | 29.48    | 7,808 (1,846 - 18,275)         | 38,547 (19,357 - 69,056)           |
| Somalia                  | 18.64    | 6,552 (1 - 19,459)             | 12,919 (5,256 - 28,050)            |

|                             |        |                                 |                                   |
|-----------------------------|--------|---------------------------------|-----------------------------------|
| South Sudan                 | 17.99  | 9,197 (0 - 25,308)              | 18,193 (8,305 - 34,866)           |
| United Republic of Tanzania | 133.31 | 14,751 (798 - 48,865)           | 97,411 (46,934 - 180,509)         |
| Uganda                      | 145.93 | 7,425 (546 - 32,431)            | 111,022 (54,609 - 201,339)        |
| Zambia                      | 42.06  | 6,166 (21 - 18,922)             | 29,464 (13,827 - 56,117)          |
| Botswana                    | 2.87   | 1,577 (0 - 4,837)               | 2,735 (1,014 - 6,320)             |
| Lesotho                     | 2.53   | 2,128 (974 - 3,878)             | 2,042 (846 - 4,308)               |
| Namibia                     | 3.44   | 1,810 (65 - 4,969)              | 4,319 (1,927 - 8,527)             |
| South Africa                | 57.49  | 27,141 (7,975 - 49,660)         | 41,852 (21,181 - 73,668)          |
| Swaziland                   | 1.6    | 513 (76 - 1,328)                | 1,104 (399 - 2,561)               |
| Zimbabwe                    | 11.81  | 3,886 (184 - 10,204)            | 7,484 (3,061 - 16,102)            |
| Benin                       | 21.06  | 11,676 (0 - 29,830)             | 30,387 (16,799 - 50,440)          |
| Burkina Faso                | 53.34  | 27,776 (0 - 71,625)             | 53,666 (29,240 - 89,778)          |
| Cameroon                    | 36.65  | 8,523 (9 - 27,255)              | 58,699 (32,425 - 97,623)          |
| Cape Verde                  | 0.0    | 0 (0 - 0)                       | 0 (0 - 0)                         |
| Chad                        | 33.39  | 14,676 (0 - 41,034)             | 35,476 (18,668 - 62,063)          |
| Cote d'Ivoire               | 32.65  | 13,219 (2 - 36,378)             | 38,326 (18,534 - 70,804)          |
| Gambia                      | 3.86   | 1,562 (4 - 4,198)               | 4,913 (2,648 - 8,302)             |
| Ghana                       | 55.94  | 29,739 (4 - 73,936)             | 75,646 (41,113 - 126,575)         |
| Guinea                      | 16.66  | 4,031 (0 - 12,754)              | 17,990 (9,188 - 31,784)           |
| Guinea-Bissau               | 2.64   | 1,286 (0 - 3,471)               | 4,003 (2,107 - 6,952)             |
| Liberia                     | 14.5   | 2,304 (0 - 7,834)               | 11,965 (5,625 - 22,642)           |
| Mali                        | 47.13  | 21,355 (0 - 57,280)             | 50,852 (27,413 - 85,352)          |
| Mauritania                  | 7.09   | 5,634 (0 - 14,956)              | 11,830 (6,744 - 19,135)           |
| Niger                       | 90.46  | 41,115 (0 - 113,107)            | 100,567 (55,266 - 168,931)        |
| Nigeria                     | 546.72 | 155,166 (0 - 408,799)           | 611,583 (350,571 - 1,008,029)     |
| Sao Tome and Principe       | 0.0    | 0 (0 - 0)                       | 0 (0 - 0)                         |
| Senegal                     | 21.98  | 10,539 (25 - 27,164)            | 29,906 (16,692 - 49,070)          |
| Sierra Leone                | 12.99  | 2,697 (0 - 8,121)               | 11,523 (5,396 - 21,687)           |
| Togo                        | 11.39  | 6,679 (0 - 17,071)              | 17,211 (9,267 - 29,269)           |
| China                       | 852.94 | 2,904,462 (830,537 - 5,114,478) | 4,117,378 (2,392,170 - 6,305,538) |
| Dem. People's Rep. of Korea | 18.55  | 53,707 (14,948 - 110,554)       | 33,982 (13,463 - 75,095)          |
| Taiwan                      | 12.55  | 11,107 (1,109 - 23,291)         | 12,943 (6,163 - 23,509)           |
| Cambodia                    | 16.06  | 14,557 (2 - 35,454)             | 15,999 (6,734 - 33,689)           |
| Indonesia                   | 217.11 | 117,630 (16,116 - 279,457)      | 331,812 (166,183 - 601,015)       |
| Lao People's Dem. Rep.      | 8.29   | 4,901 (8 - 13,815)              | 13,059 (5,921 - 25,994)           |
| Malaysia                    | 43.31  | 18,977 (1,222 - 51,765)         | 50,427 (22,731 - 98,516)          |
| Maldives                    | 0.0    | 0 (0 - 0)                       | 0 (0 - 0)                         |
| Mauritius                   | 0.81   | 320 (0 - 841)                   | 1,275 (638 - 2,239)               |

|                                         |          |                                 |                                    |
|-----------------------------------------|----------|---------------------------------|------------------------------------|
| Myanmar                                 | 37.87    | 31,553 (270 - 82,760)           | 103,451 (53,560 - 182,088)         |
| Philippines                             | 142.03   | 57,109 (318 - 143,683)          | 160,682 (87,699 - 265,307)         |
| Seychelles                              | 0.0      | 0 (0 - 0)                       | 0 (0 - 0)                          |
| Sri Lanka                               | 17.8     | 11,698 (456 - 28,724)           | 29,210 (14,402 - 52,598)           |
| Thailand                                | 57.84    | 45,776 (362 - 108,812)          | 60,782 (27,754 - 117,501)          |
| Timor-Leste                             | 2.12     | 68 (0 - 469)                    | 747 (267 - 1,756)                  |
| Viet Nam                                | 82.13    | 114,449 (3,559 - 295,614)       | 176,503 (76,204 - 344,135)         |
| American Samoa                          | 0.0      | 0 (0 - 0)                       | 0 (0 - 0)                          |
| Micronesia                              | 0.0      | 0 (0 - 0)                       | 0 (0 - 0)                          |
| Fiji                                    | 0.58     | 157 (0 - 543)                   | 447 (88 - 1,287)                   |
| Guam                                    | 0.0      | 0 (0 - 0)                       | 0 (0 - 0)                          |
| Kiribati                                | 0.0      | 0 (0 - 0)                       | 0 (0 - 0)                          |
| Nauru                                   | 0.0      | 0 (0 - 0)                       | 0 (0 - 0)                          |
| Niue                                    | 0.0      | 0 (0 - 0)                       | 0 (0 - 0)                          |
| Northern Mariana Islands                | 0.0      | 0 (0 - 0)                       | 0 (0 - 0)                          |
| Palau                                   | 0.0      | 0 (0 - 0)                       | 0 (0 - 0)                          |
| Marshall Islands                        | 0.0      | 0 (0 - 0)                       | 0 (0 - 0)                          |
| Papua New Guinea                        | 11.34    | 2,625 (134 - 8,904)             | 12,845 (4,699 - 29,624)            |
| Western Samoa                           | 0.0      | 0 (0 - 0)                       | 0 (0 - 0)                          |
| Solomon Islands                         | 0.25     | 45 (0 - 246)                    | 292 (97 - 729)                     |
| Tonga                                   | 0.0      | 0 (0 - 0)                       | 0 (0 - 0)                          |
| Tokelau                                 | 0.0      | 0 (0 - 0)                       | 0 (0 - 0)                          |
| Vanuatu                                 | 0.07     | 9 (0 - 54)                      | 59 (17 - 160)                      |
| Central-Eastern Europe and Central Asia | 346.23   | 872,305 (341,740 - 1,420,829)   | 507,770 (254,567 - 972,174)        |
| High-Income                             | 1,194.44 | 1,752,490 (671,933 - 2,892,488) | 390,267 (129,924 - 982,169)        |
| Latin America and Caribbean             | 602.86   | 391,639 (104,557 - 764,673)     | 711,688 (352,422 - 1,246,831)      |
| North Africa and Middle East            | 893.58   | 1,395,481 (157,981 - 3,081,677) | 2,573,685 (1,449,226 - 4,223,324)  |
| South Asia                              | 2,221.8  | 2,357,932 (28,673 - 5,740,477)  | 7,990,913 (5,137,933 - 11,736,899) |
| Sub-Saharan Africa                      | 2,227.73 | 629,436 (50,587 - 1,668,872)    | 2,256,160 (1,175,999 - 3,981,063)  |
| Southeast-East Asia and Oceania         | 1,521.64 | 3,389,151 (869,040 - 6,299,464) | 5,121,896 (2,878,789 - 8,160,779)  |
| Central Asia                            | 84.1     | 228,959 (71,956 - 394,256)      | 327,707 (201,968 - 498,936)        |

|                              |          |                                     |                                      |
|------------------------------|----------|-------------------------------------|--------------------------------------|
| Central Europe               | 89.58    | 239,405 (98,193 - 394,424)          | 94,999 (33,903 - 213,965)            |
| Eastern Europe               | 172.55   | 403,942 (171,590 - 632,148)         | 85,064 (18,696 - 259,273)            |
| Australasia                  | 46.59    | 51,717 (22,024 - 83,796)            | 9,494 (1,206 - 32,912)               |
| High-Income Asia Pacific     | 116.88   | 228,059 (76,233 - 393,707)          | 72,065 (25,605 - 160,438)            |
| High-Income North America    | 501.04   | 622,388 (192,839 - 1,049,290)       | 74,391 (23,827 - 231,543)            |
| Southern Latin America       | 67.12    | 95,356 (40,681 - 157,308)           | 59,665 (27,749 - 111,533)            |
| Western Europe               | 462.8    | 754,970 (340,157 - 1,208,387)       | 174,652 (51,537 - 445,743)           |
| Andean Latin America         | 57.79    | 44,847 (20,063 - 81,330)            | 69,638 (35,842 - 121,049)            |
| Caribbean                    | 32.95    | 12,348 (151 - 35,246)               | 34,570 (14,469 - 71,080)             |
| Central Latin America        | 309.35   | 222,885 (70,525 - 407,729)          | 411,515 (215,732 - 682,765)          |
| Tropical Latin America       | 202.77   | 111,559 (13,818 - 240,367)          | 195,964 (86,378 - 371,937)           |
| North Africa and Middle East | 893.58   | 1,395,481 (157,981 - 3,081,677)     | 2,573,685 (1,449,226 - 4,223,324)    |
| Central Sub-Saharan Africa   | 263.34   | 32,073 (2,279 - 124,430)            | 310,028 (152,877 - 576,348)          |
| Eastern Sub-Saharan Africa   | 876.2    | 202,329 (38,990 - 514,751)          | 722,054 (346,997 - 1,344,795)        |
| Southern Sub-Saharan Africa  | 79.73    | 37,054 (9,274 - 74,878)             | 59,537 (28,428 - 111,484)            |
| Western Sub-Saharan Africa   | 1,008.46 | 357,979 (44 - 954,814)              | 1,164,542 (647,697 - 1,948,436)      |
| East Asia                    | 884.05   | 2,969,276 (846,593 - 5,248,323)     | 4,164,303 (2,411,796 - 6,404,143)    |
| Southeast Asia               | 625.36   | 417,039 (22,313 - 1,041,394)        | 943,949 (462,092 - 1,724,837)        |
| Oceania                      | 12.23    | 2,836 (134 - 9,747)                 | 13,644 (4,901 - 31,800)              |
| WORLD                        | 8,995.74 | 10,777,327 (2,223,402 - 21,845,188) | 19,539,434 (11,372,696 - 31,279,730) |

**Supplementary Table 4:** Year 2090 mortality by Global Burden of Disease country and region for the Shared Socio-economic Pathways SSP5-8.5 scenario. For each country and region, the population is shown in millions, along with the attributable mortality to non-optimal temperature and to air pollution, with their respective 95% confidence intervals shown in parenthesis.

| Country or Region      | Pop.   | Non-optimal temperature     | air pollution               |
|------------------------|--------|-----------------------------|-----------------------------|
| Armenia                | 1.27   | 7,325 (2,057 - 12,790)      | 8,517 (4,878 - 13,289)      |
| Azerbaijan             | 6.69   | 33,227 (5,819 - 62,670)     | 31,996 (17,489 - 53,196)    |
| Georgia                | 1.4    | 7,412 (2,449 - 12,905)      | 5,721 (2,839 - 10,312)      |
| Kazakhstan             | 15.84  | 71,545 (21,623 - 123,377)   | 56,164 (30,822 - 95,645)    |
| Kyrgyzstan             | 3.72   | 14,263 (5,369 - 23,593)     | 20,066 (11,423 - 31,197)    |
| Mongolia               | 2.73   | 8,879 (2,040 - 17,820)      | 13,273 (7,183 - 23,312)     |
| Tajikistan             | 2.95   | 11,161 (1,670 - 22,650)     | 16,080 (9,405 - 25,620)     |
| Turkmenistan           | 4.22   | 18,034 (712 - 34,775)       | 27,490 (17,614 - 39,634)    |
| Uzbekistan             | 19.28  | 130,761 (16,552 - 239,508)  | 197,590 (128,723 - 283,325) |
| Albania                | 1.98   | 8,745 (1,686 - 16,347)      | 5,525 (2,541 - 10,449)      |
| Bosnia and Herzegovina | 2.15   | 10,013 (3,421 - 18,674)     | 8,702 (4,221 - 16,076)      |
| Bulgaria               | 4.83   | 34,293 (11,927 - 58,290)    | 22,229 (11,028 - 39,975)    |
| Croatia                | 2.94   | 13,919 (4,857 - 23,957)     | 7,189 (3,229 - 14,073)      |
| Czech Republic         | 16.34  | 37,491 (14,910 - 62,134)    | 20,705 (8,788 - 41,686)     |
| Hungary                | 10.63  | 28,582 (10,821 - 47,696)    | 14,322 (6,062 - 28,842)     |
| Rep. of Macedonia      | 2.0    | 15,413 (5,620 - 26,646)     | 14,447 (8,221 - 23,365)     |
| Montenegro             | 0.42   | 1,915 (597 - 3,533)         | 1,271 (592 - 2,417)         |
| Poland                 | 38.06  | 91,102 (35,995 - 147,677)   | 48,514 (20,872 - 94,988)    |
| Romania                | 10.19  | 62,716 (21,736 - 105,446)   | 23,866 (9,579 - 49,870)     |
| Serbia                 | 7.6    | 51,126 (17,670 - 89,497)    | 31,087 (14,841 - 58,763)    |
| Slovakia               | 6.6    | 17,119 (6,624 - 28,601)     | 8,863 (3,640 - 18,074)      |
| Slovenia               | 3.25   | 6,168 (2,085 - 11,454)      | 2,835 (1,184 - 6,100)       |
| Belarus                | 5.61   | 22,581 (8,342 - 37,115)     | 5,763 (1,084 - 15,917)      |
| Estonia                | 1.58   | 3,266 (1,460 - 5,228)       | 73 (0 - 973)                |
| Latvia                 | 1.28   | 4,944 (2,172 - 7,859)       | 1,309 (356 - 3,319)         |
| Lithuania              | 1.57   | 5,788 (2,330 - 9,362)       | 1,303 (223 - 3,713)         |
| Rep. of Moldova        | 0.68   | 4,868 (1,611 - 8,112)       | 1,340 (382 - 3,243)         |
| Russian Federation     | 111.37 | 483,212 (182,230 - 768,814) | 115,821 (31,603 - 305,593)  |
| Ukraine                | 30.57  | 159,253 (53,094 - 265,207)  | 51,595 (16,124 - 121,102)   |
| Australia              | 60.55  | 50,112 (13,808 - 89,735)    | 15,130 (3,055 - 44,098)     |
| New Zealand            | 9.06   | 10,861 (5,742 - 16,486)     | 2,660 (567 - 7,224)         |

|                          |        |                               |                            |
|--------------------------|--------|-------------------------------|----------------------------|
| Brunei Darussalam        | 0.42   | 1,602 (189 - 3,453)           | 593 (163 - 1,497)          |
| Japan                    | 104.58 | 150,447 (23,105 - 275,222)    | 47,899 (18,297 - 99,962)   |
| Singapore                | 5.66   | 13,557 (136 - 28,284)         | 5,495 (2,486 - 10,370)     |
| Republic of Korea        | 44.26  | 113,398 (36,798 - 204,271)    | 61,922 (26,125 - 123,771)  |
| Canada                   | 83.14  | 112,261 (41,455 - 186,458)    | 6,294 (463 - 32,322)       |
| United States of America | 664.46 | 804,745 (184,818 - 1,414,666) | 229,884 (77,481 - 545,320) |
| Argentina                | 35.66  | 65,383 (8,119 - 131,546)      | 48,700 (22,819 - 90,492)   |
| Chile                    | 14.03  | 39,008 (20,727 - 58,550)      | 23,505 (11,762 - 41,133)   |
| Uruguay                  | 1.81   | 3,325 (472 - 6,584)           | 2,821 (1,257 - 5,460)      |
| Andorra                  | 0.0    | 0 (0 - 0)                     | 0 (0 - 0)                  |
| Austria                  | 12.52  | 25,195 (9,281 - 43,232)       | 10,435 (4,130 - 22,025)    |
| Belgium                  | 19.55  | 30,602 (14,831 - 47,962)      | 12,593 (5,032 - 26,030)    |
| Cyprus                   | 1.19   | 5,672 (0 - 13,204)            | 3,963 (1,864 - 7,365)      |
| Denmark                  | 8.9    | 11,833 (5,981 - 18,308)       | 2,782 (579 - 7,532)        |
| Finland                  | 9.72   | 13,902 (6,576 - 22,083)       | 243 (0 - 3,148)            |
| France                   | 114.3  | 122,050 (54,517 - 196,444)    | 50,106 (20,096 - 103,708)  |
| Germany                  | 100.73 | 189,958 (77,990 - 316,903)    | 71,547 (25,148 - 159,432)  |
| Greece                   | 12.75  | 26,786 (2,027 - 51,655)       | 12,592 (5,794 - 23,828)    |
| Greenland                | 0.03   | 70 (35 - 112)                 | 0 (0 - 0)                  |
| Iceland                  | 0.72   | 879 (407 - 1,414)             | 82 (0 - 348)               |
| Ireland                  | 10.23  | 19,413 (11,194 - 28,057)      | 3,742 (786 - 9,958)        |
| Israel                   | 29.18  | 17,747 (0 - 39,398)           | 17,937 (9,228 - 30,344)    |
| Italy                    | 70.22  | 121,831 (26,624 - 221,349)    | 76,210 (37,331 - 135,285)  |
| San Marino               | 0.0    | 0 (0 - 0)                     | 0 (0 - 0)                  |
| Luxembourg               | 1.24   | 2,073 (868 - 3,439)           | 835 (310 - 1,823)          |
| Malta                    | 0.0    | 0 (0 - 0)                     | 0 (0 - 0)                  |
| Netherlands              | 24.77  | 37,319 (19,037 - 57,133)      | 13,577 (4,978 - 29,242)    |
| Norway                   | 12.33  | 16,090 (8,503 - 23,915)       | 1,512 (108 - 6,015)        |
| Portugal                 | 14.18  | 23,480 (5,862 - 42,622)       | 15,676 (6,902 - 30,587)    |
| Spain                    | 64.55  | 103,588 (22,065 - 190,302)    | 51,500 (21,890 - 100,382)  |
| Sweden                   | 21.79  | 25,613 (12,139 - 40,821)      | 1,645 (42 - 9,214)         |
| Switzerland              | 13.36  | 19,997 (7,996 - 33,157)       | 8,394 (3,214 - 17,694)     |
| United Kingdom           | 119.86 | 187,227 (107,365 - 269,706)   | 56,445 (19,977 - 123,112)  |
| Bolivia                  | 8.85   | 15,688 (4,561 - 33,895)       | 29,195 (15,319 - 50,686)   |
| Ecuador                  | 14.13  | 25,127 (8,379 - 46,718)       | 34,192 (18,552 - 55,252)   |
| Peru                     | 14.65  | 17,296 (5,939 - 32,893)       | 28,013 (15,460 - 46,572)   |
| Antigua and Barbuda      | 0.0    | 0 (0 - 0)                     | 0 (0 - 0)                  |
| Bahamas                  | 0.01   | 10 (0 - 26)                   | 5 (2 - 10)                 |

|                              |        |                            |                             |
|------------------------------|--------|----------------------------|-----------------------------|
| Barbados                     | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Belize                       | 0.25   | 450 (0 - 1,022)            | 534 (274 - 910)             |
| Bermuda                      | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Cuba                         | 3.9    | 9,503 (62 - 19,706)        | 6,182 (2,650 - 12,132)      |
| Dominica                     | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Dominican Republic           | 7.46   | 6,095 (252 - 14,344)       | 11,001 (4,967 - 21,334)     |
| Grenada                      | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Guyana                       | 0.23   | 915 (82 - 1,883)           | 1,226 (692 - 1,971)         |
| Haiti                        | 7.37   | 13,040 (15 - 37,578)       | 20,271 (7,862 - 44,412)     |
| Jamaica                      | 0.83   | 639 (16 - 1,670)           | 2,161 (1,124 - 3,591)       |
| Puerto Rico                  | 1.01   | 858 (22 - 2,201)           | 1,025 (320 - 2,351)         |
| United States Virgin Islands | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Saint Kitts and Nevis        | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Saint Lucia                  | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Saint Vincent and Grenadines | 0.0    | 0 (0 - 0)                  | 0 (0 - 0)                   |
| Suriname                     | 0.46   | 897 (108 - 1,856)          | 1,232 (668 - 2,036)         |
| Trinidad and Tobago          | 0.56   | 1,140 (248 - 2,201)        | 2,299 (1,259 - 3,690)       |
| Colombia                     | 47.56  | 58,318 (11,083 - 115,612)  | 120,032 (65,520 - 189,032)  |
| Costa Rica                   | 5.6    | 3,817 (232 - 9,949)        | 14,265 (7,722 - 22,742)     |
| El Salvador                  | 2.04   | 2,032 (0 - 4,822)          | 5,764 (3,254 - 8,957)       |
| Guatemala                    | 16.51  | 19,534 (1,296 - 44,602)    | 55,181 (33,035 - 85,052)    |
| Honduras                     | 7.7    | 7,392 (6 - 21,672)         | 29,606 (14,776 - 52,712)    |
| Mexico                       | 97.33  | 148,602 (33,087 - 276,835) | 195,233 (100,043 - 322,048) |
| Nicaragua                    | 3.23   | 7,048 (234 - 15,156)       | 9,235 (5,006 - 15,123)      |
| Panama                       | 3.99   | 4,215 (342 - 8,951)        | 7,758 (3,968 - 12,974)      |
| Venezuela                    | 30.73  | 42,497 (702 - 96,451)      | 86,364 (49,195 - 133,613)   |
| Brazil                       | 153.53 | 194,131 (2,543 - 428,581)  | 260,202 (120,494 - 472,533) |
| Paraguay                     | 6.99   | 7,663 (2 - 18,436)         | 11,189 (5,285 - 20,675)     |
| Afghanistan                  | 59.43  | 114,683 (17,225 - 264,222) | 234,989 (119,366 - 405,417) |
| Algeria                      | 35.87  | 168,406 (6,955 - 376,120)  | 134,408 (62,436 - 261,301)  |
| Bahrain                      | 0.67   | 3,230 (0 - 7,446)          | 0 (0 - 0)                   |
| Egypt                        | 96.91  | 277,033 (12,120 - 653,816) | 513,418 (298,121 - 824,716) |
| Iran                         | 65.41  | 284,202 (40,498 - 543,250) | 366,499 (223,216 - 541,734) |
| Iraq                         | 59.55  | 171,381 (1,601 - 412,507)  | 344,067 (203,547 - 538,972) |
| Jordan                       | 13.84  | 37,953 (0 - 90,990)        | 57,635 (30,868 - 96,231)    |
| Kuwait                       | 3.94   | 9,210 (0 - 21,272)         | 15,277 (9,610 - 21,822)     |
| Lebanon                      | 3.25   | 9,424 (541 - 21,334)       | 8,527 (4,023 - 15,647)      |
| Libya                        | 7.51   | 12,824 (18 - 32,755)       | 17,016 (7,890 - 32,426)     |



|                          |          |                                |                                     |
|--------------------------|----------|--------------------------------|-------------------------------------|
| Morocco                  | 20.08    | 50,019 (4,226 - 119,944)       | 82,189 (40,253 - 149,106)           |
| State of Palestine       | 2.92     | 7,918 (0 - 18,799)             | 9,439 (4,606 - 17,211)              |
| Oman                     | 3.62     | 14,606 (67 - 33,406)           | 25,441 (15,606 - 38,681)            |
| Qatar                    | 2.24     | 13,782 (0 - 32,816)            | 28,585 (17,531 - 43,769)            |
| Saudi Arabia             | 55.45    | 170,419 (119 - 405,048)        | 374,233 (233,456 - 552,118)         |
| Sudan                    | 54.81    | 117,809 (59 - 307,518)         | 221,414 (115,480 - 379,574)         |
| Syrian Arab Republic     | 26.27    | 132,682 (442 - 285,842)        | 158,236 (89,127 - 259,222)          |
| Tunisia                  | 9.02     | 28,707 (280 - 66,255)          | 29,354 (13,873 - 55,246)            |
| United Arab Emirates     | 16.86    | 113,487 (0 - 304,785)          | 198,184 (118,224 - 318,510)         |
| Turkey                   | 70.39    | 190,217 (40,566 - 397,533)     | 171,818 (79,990 - 322,469)          |
| Yemen                    | 47.07    | 52,933 (4,970 - 131,501)       | 175,931 (94,732 - 298,332)          |
| Bangladesh               | 127.97   | 382,057 (0 - 1,005,887)        | 1,013,460 (597,779 - 1,689,260)     |
| Bhutan                   | 1.06     | 1,922 (560 - 4,227)            | 4,052 (1,960 - 7,485)               |
| India                    | 1,254.02 | 3,046,399 (12,905 - 7,387,363) | 7,548,674 (4,874,679 - 10,938,261)  |
| Nepal                    | 38.07    | 70,906 (4,823 - 195,024)       | 236,270 (126,630 - 384,796)         |
| Pakistan                 | 219.74   | 450,534 (3,309 - 1,195,348)    | 1,245,752 (757,196 - 1,935,592)     |
| South Asia               | 1,640.85 | 3,951,819 (21,598 - 9,787,849) | 10,048,209 (6,358,244 - 14,955,394) |
| Angola                   | 43.49    | 20,043 (6 - 63,543)            | 83,375 (39,292 - 158,679)           |
| Central African Republic | 5.92     | 6,505 (0 - 20,403)             | 20,893 (9,917 - 39,416)             |
| Congo                    | 7.86     | 8,966 (69 - 25,522)            | 29,387 (14,859 - 52,748)            |
| Dem. Rep. of the Congo   | 146.44   | 92,618 (1,026 - 273,122)       | 373,080 (192,350 - 673,112)         |
| Equatorial Guinea        | 1.15     | 574 (0 - 1,935)                | 3,015 (1,446 - 5,674)               |
| Gabon                    | 1.44     | 2,394 (2 - 6,409)              | 4,824 (2,317 - 8,839)               |
| Burundi                  | 18.17    | 4,594 (83 - 18,751)            | 64,705 (34,683 - 110,445)           |
| Comoros                  | 0.0      | 0 (0 - 0)                      | 0 (0 - 0)                           |
| Djibouti                 | 0.92     | 1,884 (0 - 5,207)              | 2,042 (1,042 - 3,611)               |
| Eritrea                  | 10.98    | 14,265 (0 - 47,198)            | 30,839 (14,536 - 57,480)            |
| Ethiopia                 | 139.67   | 101,648 (15,327 - 252,752)     | 292,087 (147,897 - 516,541)         |
| Kenya                    | 67.87    | 29,498 (4,454 - 75,451)        | 119,015 (65,197 - 197,790)          |
| Madagascar               | 37.8     | 31,763 (3,081 - 81,109)        | 80,409 (37,328 - 152,692)           |
| Malawi                   | 40.19    | 21,054 (2 - 62,704)            | 59,005 (29,180 - 107,057)           |
| Mozambique               | 37.65    | 34,086 (0 - 96,904)            | 56,363 (26,013 - 108,108)           |
| Rwanda                   | 21.34    | 7,425 (802 - 22,548)           | 66,777 (35,006 - 114,982)           |

|                             |        |                                 |                                   |
|-----------------------------|--------|---------------------------------|-----------------------------------|
| Somalia                     | 7.95   | 9,536 (0 - 26,882)              | 9,076 (3,704 - 19,719)            |
| South Sudan                 | 12.76  | 19,886 (0 - 54,511)             | 22,650 (10,576 - 42,482)          |
| United Republic of Tanzania | 85.05  | 34,128 (143 - 110,906)          | 159,637 (81,596 - 280,492)        |
| Uganda                      | 93.44  | 16,302 (228 - 68,280)           | 189,934 (99,171 - 327,179)        |
| Zambia                      | 28.4   | 14,178 (0 - 42,980)             | 46,079 (22,886 - 83,561)          |
| Botswana                    | 2.49   | 4,121 (0 - 12,232)              | 5,683 (2,299 - 12,200)            |
| Lesotho                     | 2.04   | 3,040 (1,039 - 6,186)           | 4,359 (1,941 - 8,640)             |
| Namibia                     | 2.91   | 5,011 (34 - 14,364)             | 8,390 (3,911 - 16,035)            |
| South Africa                | 53.78  | 53,331 (5,863 - 111,747)        | 104,267 (56,554 - 172,358)        |
| Swaziland                   | 1.36   | 964 (17 - 2,797)                | 2,484 (1,004 - 5,298)             |
| Zimbabwe                    | 6.02   | 5,478 (1 - 15,735)              | 9,875 (4,357 - 19,942)            |
| Benin                       | 16.19  | 35,453 (0 - 89,352)             | 52,045 (29,511 - 84,490)          |
| Burkina Faso                | 34.68  | 67,188 (0 - 169,537)            | 79,584 (44,427 - 130,450)         |
| Cameroon                    | 29.66  | 29,346 (1 - 81,811)             | 105,354 (59,402 - 171,582)        |
| Cape Verde                  | 0.0    | 0 (0 - 0)                       | 0 (0 - 0)                         |
| Chad                        | 23.42  | 34,224 (0 - 90,540)             | 50,699 (27,016 - 87,621)          |
| Cote d'Ivoire               | 21.32  | 46,861 (0 - 118,301)            | 58,209 (29,285 - 104,066)         |
| Gambia                      | 2.54   | 5,003 (35 - 12,532)             | 8,089 (4,478 - 13,365)            |
| Ghana                       | 38.75  | 101,734 (0 - 247,504)           | 130,149 (72,607 - 211,724)        |
| Guinea                      | 8.98   | 13,101 (0 - 34,597)             | 23,024 (12,073 - 39,677)          |
| Guinea-Bissau               | 1.93   | 4,205 (11 - 10,664)             | 5,773 (3,115 - 9,825)             |
| Liberia                     | 12.26  | 17,764 (22 - 44,376)            | 26,286 (12,991 - 47,638)          |
| Mali                        | 31.95  | 50,897 (0 - 132,627)            | 81,781 (44,754 - 134,983)         |
| Mauritania                  | 5.1    | 9,297 (0 - 24,090)              | 15,693 (9,033 - 25,155)           |
| Niger                       | 49.75  | 52,005 (0 - 139,427)            | 98,067 (54,735 - 162,154)         |
| Nigeria                     | 411.99 | 427,849 (0 - 1,037,662)         | 953,349 (564,561 - 1,520,093)     |
| Sao Tome and Principe       | 0.0    | 0 (0 - 0)                       | 0 (0 - 0)                         |
| Senegal                     | 10.89  | 18,502 (10 - 46,726)            | 31,454 (17,898 - 50,814)          |
| Sierra Leone                | 10.7   | 14,519 (0 - 36,673)             | 23,399 (11,663 - 42,031)          |
| Togo                        | 9.25   | 23,506 (0 - 59,264)             | 31,963 (17,687 - 52,970)          |
| China                       | 763.59 | 4,430,087 (589,174 - 8,487,145) | 6,221,789 (3,618,825 - 9,424,890) |
| Dem. People's Rep. of Korea | 15.84  | 86,251 (27,596 - 173,845)       | 52,425 (21,257 - 114,195)         |
| Taiwan                      | 19.16  | 31,098 (1,455 - 70,160)         | 32,388 (15,569 - 58,040)          |
| Cambodia                    | 10.0   | 29,493 (0 - 71,889)             | 16,594 (6,802 - 35,708)           |
| Indonesia                   | 180.01 | 371,406 (43,983 - 766,969)      | 479,754 (250,463 - 838,648)       |
| Lao People's Dem. Rep.      | 5.48   | 9,892 (0 - 27,149)              | 15,319 (6,915 - 30,656)           |
| Malaysia                    | 35.48  | 65,924 (5,621 - 142,357)        | 65,607 (29,834 - 127,282)         |
| Maldives                    | 0.0    | 0 (0 - 0)                       | 0 (0 - 0)                         |

|                                         |          |                                  |                                     |
|-----------------------------------------|----------|----------------------------------|-------------------------------------|
| Mauritius                               | 0.68     | 686 (0 - 1,661)                  | 1,689 (853 - 2,927)                 |
| Myanmar                                 | 27.24    | 72,677 (73 - 183,041)            | 131,030 (67,498 - 230,621)          |
| Philippines                             | 105.7    | 172,551 (2,731 - 373,443)        | 214,874 (118,803 - 349,039)         |
| Seychelles                              | 0.0      | 0 (0 - 0)                        | 0 (0 - 0)                           |
| Sri Lanka                               | 11.45    | 26,535 (1,634 - 59,203)          | 30,085 (14,607 - 54,582)            |
| Thailand                                | 50.86    | 105,911 (92 - 258,594)           | 87,471 (39,279 - 170,730)           |
| Timor-Leste                             | 0.59     | 164 (0 - 549)                    | 441 (165 - 1,011)                   |
| Viet Nam                                | 67.55    | 212,237 (353 - 553,135)          | 207,532 (87,705 - 409,206)          |
| American Samoa                          | 0.0      | 0 (0 - 0)                        | 0 (0 - 0)                           |
| Micronesia                              | 0.0      | 0 (0 - 0)                        | 0 (0 - 0)                           |
| Fiji                                    | 0.27     | 250 (0 - 742)                    | 400 (93 - 1,101)                    |
| Guam                                    | 0.0      | 0 (0 - 0)                        | 0 (0 - 0)                           |
| Kiribati                                | 0.0      | 0 (0 - 0)                        | 0 (0 - 0)                           |
| Nauru                                   | 0.0      | 0 (0 - 0)                        | 0 (0 - 0)                           |
| Niue                                    | 0.0      | 0 (0 - 0)                        | 0 (0 - 0)                           |
| Northern Mariana Islands                | 0.0      | 0 (0 - 0)                        | 0 (0 - 0)                           |
| Palau                                   | 0.0      | 0 (0 - 0)                        | 0 (0 - 0)                           |
| Marshall Islands                        | 0.0      | 0 (0 - 0)                        | 0 (0 - 0)                           |
| Papua New Guinea                        | 8.49     | 6,513 (548 - 18,521)             | 17,047 (6,387 - 38,460)             |
| Western Samoa                           | 0.0      | 0 (0 - 0)                        | 0 (0 - 0)                           |
| Solomon Islands                         | 0.17     | 174 (3 - 506)                    | 331 (117 - 796)                     |
| Tonga                                   | 0.0      | 0 (0 - 0)                        | 0 (0 - 0)                           |
| Tokelau                                 | 0.0      | 0 (0 - 0)                        | 0 (0 - 0)                           |
| Vanuatu                                 | 0.05     | 26 (0 - 109)                     | 78 (25 - 202)                       |
| Central-Eastern Europe and Central Asia | 317.75   | 1,365,122 (447,480 - 2,291,734)  | 763,655 (374,945 - 1,434,066)       |
| High-Income                             | 1,685.75 | 2,366,024 (728,668 - 4,076,475)  | 856,720 (331,883 - 1,848,722)       |
| Latin America and Caribbean             | 434.92   | 586,904 (69,211 - 1,237,060)     | 932,165 (477,445 - 1,580,408)       |
| North Africa and Middle East            | 655.12   | 1,980,923 (129,688 - 4,527,162)  | 3,166,661 (1,781,954 - 5,172,504)   |
| South Asia                              | 1,640.85 | 3,951,819 (21,598 - 9,787,849)   | 10,048,209 (6,358,244 - 14,955,394) |
| Sub-Saharan Africa                      | 1,596.46 | 1,494,744 (32,258 - 3,895,858)   | 3,623,167 (1,954,296 - 6,183,717)   |
| Southeast-East Asia and Oceania         | 1,302.61 | 5,621,877 (673,264 - 11,189,017) | 7,574,854 (4,285,196 - 11,888,093)  |

|                              |         |                                     |                                      |
|------------------------------|---------|-------------------------------------|--------------------------------------|
| Central Asia                 | 58.1    | 302,608 (58,290 - 550,086)          | 376,897 (230,376 - 575,530)          |
| Central Europe               | 106.99  | 378,601 (137,950 - 639,950)         | 209,554 (94,797 - 404,676)           |
| Eastern Europe               | 152.66  | 683,913 (251,240 - 1,101,699)       | 177,204 (49,772 - 453,860)           |
| Australasia                  | 69.61   | 60,973 (19,550 - 106,222)           | 17,790 (3,622 - 51,322)              |
| High-Income Asia Pacific     | 154.92  | 279,003 (60,228 - 511,230)          | 115,910 (47,070 - 235,600)           |
| High-Income North America    | 747.61  | 917,006 (226,273 - 1,601,125)       | 236,178 (77,943 - 577,643)           |
| Southern Latin America       | 51.5    | 107,716 (29,317 - 196,680)          | 75,027 (35,838 - 137,084)            |
| Western Europe               | 662.11  | 1,001,325 (393,300 - 1,661,218)     | 411,816 (167,410 - 847,073)          |
| Andean Latin America         | 37.63   | 58,111 (18,879 - 113,506)           | 91,401 (49,332 - 152,510)            |
| Caribbean                    | 22.06   | 33,545 (804 - 82,486)               | 45,936 (19,816 - 92,437)             |
| Central Latin America        | 214.7   | 293,454 (46,983 - 594,050)          | 523,438 (282,519 - 842,252)          |
| Tropical Latin America       | 160.53  | 201,794 (2,545 - 447,017)           | 271,390 (125,778 - 493,209)          |
| North Africa and Middle East | 655.12  | 1,980,923 (129,688 - 4,527,162)     | 3,166,661 (1,781,954 - 5,172,504)    |
| Central Sub-Saharan Africa   | 206.3   | 131,100 (1,103 - 390,934)           | 514,574 (260,181 - 938,468)          |
| Eastern Sub-Saharan Africa   | 602.2   | 340,247 (24,121 - 966,181)          | 1,198,616 (608,815 - 2,122,139)      |
| Southern Sub-Saharan Africa  | 68.6    | 71,945 (6,954 - 163,061)            | 135,059 (70,066 - 234,472)           |
| Western Sub-Saharan Africa   | 719.37  | 951,453 (80 - 2,375,682)            | 1,774,917 (1,015,234 - 2,888,639)    |
| East Asia                    | 798.58  | 4,547,436 (618,225 - 8,731,150)     | 6,306,602 (3,655,650 - 9,597,124)    |
| Southeast Asia               | 495.06  | 1,067,477 (54,488 - 2,437,990)      | 1,250,395 (622,925 - 2,250,410)      |
| Oceania                      | 8.98    | 6,964 (551 - 19,878)                | 17,856 (6,621 - 40,559)              |
| WORLD                        | 7,614.3 | 17,336,315 (2,100,711 - 36,934,995) | 26,933,042 (15,548,396 - 43,004,864) |